



State Of Colorado

**Colorado Department of Personnel
General Support Services
Telecommunication Services
Colorado Information Technology Services**

Request For Proposal

for

**Multi-Use Network: Infrastructure Development,
Statewide Telecommunication Service Aggregation,
and Network Management**

October 22, 1999

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Section 1 - INTRODUCTION

1.1 Introduction

Colorado Information Technology Services (CITS) as a Division of the Department of Personnel is issuing this RFP as a solicitation for proposals for the configuration, implementation, and ongoing management of an outsourced statewide Multi-Use Network. The purpose of this Request for Proposal (RFP) is to define minimum technical and functional requirements for the State of Colorado *Multi-Use Network* and to obtain adequate information for evaluation and award of infrastructure and service development proposals offered in response to this RFP.

The Multi-Use Network will consist of 70 points of service around the state called *Aggregated Network Access Points* or ANAPs. An ANAP is not necessarily a physical presence or installation, but rather will be defined as a minimum of 20 Mb of access capability for State network users in an area. High-speed network access, preferably over fiber, will be delivered to these locations by the provider and distributed to users over appropriate links. Asynchronous Transfer Mode (ATM) is the required transport method. Offerors must specify how their existing service structure and planned improvements will meet the telecommunications requirements of the Multi-Use Network. This RFP seeks a prime contractor / Offeror who will create a mutually beneficial public/private partnership with the State as "anchor tenant" for increased telecommunications performance and the extension of advanced technologies throughout Colorado.

Throughout this RFP document, the State of Colorado Multi-Use Network will be referred to with the abbreviation MNT, for Multi-Use Network for Telecommunications.

The State will insist on a 36 month implementation schedule in which MNT service upgrades are completed in 30% of sites in year one (minimum of 21); 50% of sites in year two (an additional 35 sites for a total of 56); and 20% of sites in year three (the remaining 14 sites). Offerors should also describe how they intend to coordinate their MNT implementation efforts with the activities of the "Beanpole" project communities (HB 99-1102) and other grassroots technology investment initiatives. The State of Colorado encourages the use of licensed, qualified, local subcontractors for implementation of the MNT where possible.

The formal schedule for this RFP process can be found in Section II, Administrative Information.

Evaluation and award are expected to be completed by February 1, 2000 (tentative date for letter of intent to award), with contracting to be completed by February 14, 2000, and a start date target of February 15, 2000.

1.2 Organization of the RFP

Section II will detail the Administrative Information for the RFP process and provide a sample contract. Section III, Statement of Work, will provide Technical Specifications and General Requirements for three modules: 1) Infrastructure, 2) Project Management; 3) Network Management and Monitoring.

Section IV, Proposal format and evaluation criteria, provides a template for responses. Background material on current equipment, network requirements, and other pertinent information will be included in the Attachments.

1.3 Project Description

The concept of the State of Colorado MNT is to aggregate State telecommunication requirements onto a high-speed backbone capable of integrating voice, video, and data. The network does not call for investment in any new forms of dedicated and rigidly defined technology solely limited to State agency uses. Instead, this RFP seeks an Offeror who can leverage the State's investment into an enhanced public network to benefit all users of telecommunications technology in every community in Colorado.

Aggregation of service requirements for the MNT will deliver three immediate benefits:

1. Provide coherence of services and simplification of management, maintenance, and business operations.
2. Allow leveraging of State investment for strategic development of telecommunications capabilities and accelerated technology introduction for Colorado communities; and
3. Make possible an immediate reduction of administrative and maintenance costs and establishment of well-defined cost-avoidance strategies for future State telecommunications investment and growth.

1.4 History

The MNT concept developed in response to legislation passed by the General Assembly of the State of Colorado in 1996: Senate Bills 96-102 and 96-197. Senate Bill 96-102 (C.R.S. 24-37.5-203) charged the Commission on Information Management (IMC) with the responsibility to "...develop and implement requirements for the statewide information infrastructure..." The intent was to connect "...urban and rural communities across the state..." From the start, the concept of a "public/private partnership" was central to the concept of a MNT. The IMC charge in SB 96-102 included the following task:

To define and initiate a partnership between the private and public sectors for funding and building the statewide information infrastructure, with the understanding that the private sector will build the necessary portions of the statewide information infrastructure.

The mandate for infrastructure development is aligned with local economic development based on the availability of advanced telecommunication services. Senate Bill 96-197 (C.R.S. 23-11.5 102 through 104) refers to the selection and operation of a "Multiple-use Network." This was defined as "...a digital network capable of carrying integrated voice and video as well as text, graphics, and other electronic data between and among schools, public libraries, institutions of higher education, and state agencies." The mandate charged the Department of Higher Education, in consultation with the Department of Education and the IMC, to investigate and select one or more multiple-use networks to connect Colorado schools, public libraries, and institutions of higher education for the purposes of enhancing instruction and information access.

A review of the State's past telecommunication purchasing practices discovered several inherent limitations in the State's ability to optimize its delivery of networked services. Distributed funding models along with distributed decision making authority had fostered the development of inefficient approaches to providing relatively generic telecommunication services to state offices throughout Colorado. State agencies, schools, libraries, and institutions of higher education purchased telecommunications services in a piecemeal fashion. These institutionalized practices have slowed development of State networked technology and fragmented the state's ability to deliver services and affect infrastructure development throughout Colorado. It has also increased the potential for failure and delay of new information technology projects that must depend on the availability of advanced telecommunications services and increased bandwidth. These telecommunication purchasing practices also have not allowed the State to benefit from forming higher-level strategic partnerships with telecommunications vendors to provide direction and support for mutually beneficial upgrading of the State's local and backbone public telecommunications infrastructure.

In October of 1997, the Multi-use Network Taskforce (MNT) was established by the Department of Personnel / General Support Services. As a result of the work done by the taskforce, the IMC released the *Colorado Strategic Plan For Statewide Telecommunications Infrastructure* in February 1998. A copy of the plan and other related information may be obtained at the following web site http://www.state.co.us/gov_dir/gss/cits/comm/multinet/multinetcover.htm.

1.5 Related Legislation

A companion piece to the MNT Strategic Plan relates to *Community Incentive Funding* or *community based access grants*, a means to fund and facilitate the participation of community level stakeholder aggregation (that is, other than State agency offices) to extend MNT-recommended infrastructure upgrades to every Colorado community. A bill informally known as the "Beanpole Bill" (HB 99-1102) was passed in the 1999 legislative session to establish a grant program for local communities. Enabled with "Beanpole" funding, each community can aggregate its multiple sources of telecommunications demand from education, local government, library, health care, and other public or non-profit sectors. This community-level aggregated demand is intended to provide the "anchor tenant" to resolve "last mile" problems even in communities without significant State government telecommunications requirements. Local ANAPs (aggregations of non-State user requirements) will be formed within the self-defined community to aggregate telecommunications services. The concept is to achieve a critical mass of demand and facilitate extension of the capabilities of the MNT. First year funding defined in the "Beanpole" bill is \$4.676 million, with additional funding dependent on demonstrated success of the program. A copy of HB 99-1102 along with other descriptive and contact information on the "Beanpole" project can be found in Attachment 5.1 of this RFP.

HB 99-1102 directs State Telecommunications Services to interconnect with these community-based aggregation efforts:

24-1-125, Colorado Revised Statutes, to administer a community-based access program of incentive grants available to all communities in the state to aggregate the communications traffic of the public offices within the community. The General Assembly also hereby directs the executive director of the department of personnel to interconnect this community-based traffic with networks established by the state, to the extent that available resources permit.

24-30-903. Duties and Responsibilities. (7) The executive director of the department of personnel shall carry out all duties and responsibilities set forth in this section in a manner that is consistent with the objective of maximizing access to digital networks of the state by all public offices of all levels, branches, and political subdivisions of the state within every community of the state. In particular, within available resources and as soon as feasible, the executive director shall provide connections proposed and approved by the department of local affairs, created in section 24-1-125, C.R.S., through the community-based access grant program established under section 23-11-104,5, C.R.S., and may act as a network provider between or among all public offices as defined in said section.

The MNT, by this requirement, is an inclusive concept, and Offerors should keep in mind that the State wishes to establish a system which will leverage telecommunications investment from the broadest possible set of approved stakeholders. Therefore, the State

of Colorado is soliciting proposals from service providers who can build, operate, and manage a statewide network to consolidate the needs of Colorado State agencies as well as the telecommunications needs of higher education sites, local government, and other public entities, such as K-12 schools, healthcare facilities, and libraries, as called for in HB 99-1102. Responses to this RFP should address this issue of inclusiveness and aggregation of investments in addition to what the State itself will be able to provide under the auspices of this RFP. In effect, the coordinated inclusion of these other investments will return a benefit to the State in improved infrastructure and capability, particularly in Colorado's smaller and less populous communities.

1.6 Goals

The MNT concept has the following set of goals:

The primary goal of this RFP is to identify an Offeror who can provide the best proposal for improvements of cost control and efficiency for both client and vendor in the provision of telecommunications services and infrastructure development required by the State of Colorado. This statement is expanded and detailed in a set of goals (revised from their original publication in 1998) which first appeared in the State's MNT Strategic Plan:

1. To aggregate network management and telecommunications purchasing to maximize the value of the State's telecommunications investment in measures of cost efficiency and technical performance.
2. To provide a minimum of one point of service for high speed access (ANAP) in every county in the state (plus several other State-served sites, a combined minimum of 70). These will provide bandwidth ranging from 20 Mbps to 2.4 Gbps (OC-48) for State services, via Asynchronous Transfer Mode (ATM) connections capable of carrying voice, video, and data on a statewide network.
3. To establish a public/private strategic partnership with an Offeror to coordinate the use of ongoing state telecommunications investment for the build-out of advanced telecommunication capabilities in all Colorado communities.
4. To create a telecommunications service system in which the physical network will not be state owned. Instead, the State network will consist of a network of purchased services with defined performance capabilities. The only equipment that will be owned by the State are designated ATM edge switches and other customer premise equipment (CPE).
5. To align and aggregate departmental purchasing of telecommunications services for efficiency and value of State investment (i.e., to

- receive the highest bandwidth and most advanced technology access for the dollar), coordinated management, and simplification of the vendor business relationship.
6. To leverage departmental and State aggregate telecommunications spending to assist vendor provision of public and switched services in Colorado communities and introduction of new telecommunications technologies throughout the State.
 7. To provide a secure, reliable, scaleable telecommunications environment for the delivery of state services.

The MNT concept is based on a consolidation of State telecommunication services, WAN resources, existing State-owned equipment, and network management resources to generate cost savings, increased efficiency, and improved performance. The aggregation and centralized monitoring of State services should allow for the integration of all forms of telecommunications traffic into a more cohesive and flexible network. The resulting service infrastructure should provide not only higher performance, but also better availability, improved network management capability, more rapid response to new service requirements, and better potential for future cost avoidance. The MNT concept will also make possible a more streamlined business process.

The State Legislature, in its 1999 session, approved a State Backbone Budget Decision Item for \$4,050,000 as the first year funding of a total \$13.5 million in Capital Construction over the next 3 fiscal years and \$7.35 million in Additional Spending Authority for the MNT. This funding approval allows the State to issue this RFP to select a prime contractor to develop and implement the MNT.

The completed MNT will be an outsourced, monitored and managed statewide network infrastructure that can accommodate voice, data and video communications as well as shared Internet access.

1.7 Current Status of State Networks

The State of Colorado is in need of a new, flexible, high-speed backbone to accommodate the many new applications and services being developed and deployed for its citizens. Currently the State employs several architectures and legacy networks to handle its data, voice, and video needs. Many new departmental networks have also been under development to accommodate required upgrades in services. This section summarizes those old and new networks for your better understanding of current and upcoming requirements

There are 19 State departments in Colorado, which can be classified into four categories depending on how they operate their telecommunications networks. The first group is general State government, the agencies responsible for the general services of the state, which includes Labor and Employment, Human Services, Public Safety, Transportation,

and others. The second category is Higher Education, which includes the four-year colleges and university system in Colorado. The third is the community college system run by the Colorado Community College and Occupational Education System (CCCOES). And the last category is the Judicial Branch and others. Each of these groups has been somewhat autonomous in the planning, management, and operation of their telecommunication projects and networks.

1.7.1 General State Government – The Telecommunications Services Group under Colorado Information Technology Services (CITS) in the Department of Personnel/General Support Services is responsible for assisting general State government agencies to design and complete their network and telecommunications projects. Telecommunications Services operates the State Digital Data Network (DDN), the Colorado Information Network backbone (CIN), the CITS Data Center Systems Network Architecture (SNA) network, ATM network, and the Cooperative Interactive Video in Colorado State Government (CIVICS) video network. The implementation, oversight, and operations of the MNT will also be a responsibility of Telecommunications Service Group.

1.7.2 Higher Education – Higher Education uses the Internet for most of its intercampus electronic mail and traffic. Higher Education (CU Denver) also provides internet services to the CCCOES community college system. It is also a user of the CITS CIVICS network for videoconferencing and distance learning. The University of Colorado and Colorado State University are charter members of Internet II Project, with the University of Colorado at Denver slated to serve as a “Gigapoint” for Internet II services. The Internet II Project is a collaborative effort among a number of universities, federal R& D agencies, and private sector firms to develop a next generation Internet for research and education, including enhanced network services as well as the multimedia applications which will be enabled by those services. Higher Education sites include the University of Colorado, with campus locations in Boulder, Denver, and Colorado Springs; Colorado State University in Fort Collins with extension services throughout the state; the University of Northern Colorado in Greeley; Fort Lewis College in Durango; Western State College in Gunnison; Adams State College in Alamosa; Mesa College in Grand Junction; and the University of Southern Colorado in Pueblo.

1.7.3 Community College System – The Community College network receives Internet service through a connection at CU Denver, and it uses the CITS CIVICS network for distance learning and videoconferencing. It uses the DDN and carrier circuits to connect its various sites. There are community colleges in Sterling, Trinidad, Fort Morgan, the Denver metro area, Pueblo, Lamar, Rangely, and La Junta. A number of these Colleges operate multiple campuses.

1.7.4 Judicial Branch and Others – The Judicial Branch network was developed at the departmental level and its staff does network design, operation, and purchasing separately from any other group. K-12 and the Library Network are also included in this category. The K-12 education network is largely composed of schools connecting to the Internet through a variety of internet service providers. Some are connected through grant

projects at higher education sites and the community college system. The Colorado Department of Education helps facilitate Internet connections for schools (it distributes \$4+ million in Federal educational technology support funding annually) and may serve as a technical resource to the school districts. The Colorado State Library, also a division of the Colorado Department of Education, operates the Access Colorado Library and Information Network (ACLIN), providing online access to library resources for all State residents (free dial-up access is a statutory requirement of ACLIN) and distributes up to \$2 million in Federal and private grant funding for library technology development in the state annually. Both libraries and schools have recently benefited from the introduction of “E-rate” telecommunications subsidies which provide up to 90% discounts for their Internet and telephony expenses. Information on the recent status of Library and K-12 Schools telecommunications infrastructure and usage can be found in Attachment 5.8.

1.7.5 Backbone Network Services – Most of the State’s networks are carried over telecommunications lines leased from private telecommunication suppliers. Leased lines for State networks range from 2400 bps analog circuits to 155 Mbps ATM service. The State has also operated a statewide microwave system primarily to support public safety radio applications for a number of years. In addition to the Colorado State Patrol and local law enforcement, this system supports radio communications within the Department of Transportation (snowplows, highway equipment, etc.); Department of Natural Resources, including the Parks and Wildlife divisions; Department of Corrections for communications within and between prisons; and Higher Education institutions primarily for security and maintenance applications. The microwave network also serves as an alternate or redundant path for statewide networks such as the DDN. The microwave system has links to the systems in the states of Wyoming and New Mexico with a link to Utah recently having been implemented.

1.7.6 Voice Communications – The State currently supports approximately 38,000 telephone numbers located throughout the state excluding Higher Education and their student populations. Voice service management also includes the State long distance services contract, billing an aggregate of services of approximately \$3.5 million annually.

1.7.7 Analog Radio – Although the State microwave network is digital, normal radio communications are still analog. The State system supports approximately 9900 radios and related dispatch centers. State users account for almost 8100 radios with the highest concentrations in Transportation (almost 2700), Natural Resources (over 1500), and Corrections (over 1600). Another 1800 radios are located in city and county governments primarily in local law enforcement and fire protection. Other State of Colorado departments using radio services include Agriculture, General Support Services, Judicial, Education, Public Health & Environment, Higher Education, Human Services, Labor & Employment, Law, Local Affairs, and Revenue. The Colorado State Patrol is transitioning from 17 dispatch centers down to five strategically located centers throughout the state. The State recently completed an RFP process for Digital Trunked Radio Services.

1.7.8 Digital Data Network (DDN) – The Digital Data Network (DDN) was created in 1986 to combine and better facilitate the transmission of data traffic within the state. The DDN consists primarily of leased digital lines with some reliance on the digital microwave for alternate paths or redundancy. The network relies on Time Division Multiplexers from General DataComm (GDC), and consists of nearly 50 nodes and around 350 circuits. DDN carries primarily low speed SNA network (9600 Bps) data and CIVICS video network traffic. (Please see Attachment 5.2 for network diagram.) It is one intent of this RFP to provide a high-speed network backbone that will allow a migration path to upgrade existing circuits on the DDN to the new and advanced services of the MNT.

1.7.9 SNA Network – The SNA network is so named because it uses the Systems Network Architecture (SNA) protocol. It is the network architecture used to interconnect IBM type mainframes such as the Amdahl Millenium 775 at the CITS Data Center and generally supports the widely used 3270 terminals still common to many departments. SNA is also used to connect the State mainframe to other mainframes for intercommunication.

The use and expansion of the SNA network has been discouraged. However, the State Data Center still has over 8400 devices identified as SNA. Ultimately, the use of this protocol, at least on the backbone portion of the State network, needs to be phased out in favor of the State standard, TCP/IP protocol. There is an SNA Project currently being implemented to do just this. It is anticipated that the majority of analog SNA lines will be converted to Frame Relay and encapsulated or converted to TCP/IP by June of 2000.

1.7.10 CIVICS Network (Video Conferencing) – The Cooperative Interactive Video In Colorado State Government (CIVICS) network provides the delivery of interactive video conferences and classes to 129 sites located around the state. In the last two years, CIVICS has grown rapidly. Currently, most of this activity runs on the DDN. The CIVICS network offers two-way interactive video using at least 384 Kbps of bandwidth. Due to the time division multiplexer technology used in the DDN, 384 Kbps of bandwidth must be permanently dedicated whether or not a videoconference is taking place.

There are increasing capacity issues as demand grows for this service. The highest usage is for course delivery between colleges, universities, and community colleges. Another use for video by the Department of Corrections is teleconferencing, which will be used to train staff and inmates, as well as provide services for video arraignment, parole board hearings, and staff meetings. The State is currently unable to meet the increasing demands in this area due to the limitations of the existing, legacy, DDN network.

1.7.11 Colorado Information Network (CIN) / Open Colorado Information Network (OCIN) - These networks are primarily based on Frame Relay Technology. The CIN has

network connections to most departments and serves as transport to the CITS Data Center mainframe and the Internet. Through the CIN, departments can interconnect and communicate with one another. The CIN also connects the State network to the global Internet. The CIN link to the Internet was recently upgraded from 1.544 Mbps to an ATM line at 20Mbps, improving performance dramatically.

There are various structural components of the CIN network in addition to frame relay circuits. There is a high-speed fiber optic loop (using FDDI - Fiber Data Distributed Interface) connecting the buildings in the Capitol Complex area. There are currently more than 220 routing points on this network using primarily Cisco routers. The CIN has more than 6000 countable devices attached to the network. The CIN network is currently monitored via Open View network software from Hewlett-Packard using SNMP (Simple Network Management Protocol). The State web server (Colorado Homepage) uses the CIN to connect to the Internet. The web server is on the "open" (i.e., public) CIN (OCIN), which is accessible from the Internet without restriction. The major portion of CIN is behind a screening router providing a barrier to incoming Internet traffic.

1.7.12 Asynchronous Transfer Mode (ATM) -In 1996, the State was funded for development of an ATM network to provide dramatically improved capabilities and replace the current Digital Data Network (DDN). The ATM network was initially designed to be owned and operated by the State and to run over privately leased lines. However, plans for the ATM network changed based on the 1998 Strategic Planning initiative of the Information Management Commission (IMC). Abandoning the private network concept, the ATM project took on a new focus of public/private partnership in preparation for the new Multi-Use Network (MNT) backbone.

The State has currently installed General DataComm (GDC) ATM switches at four locations, operating on a combination of a private SONET ring and public switched architecture (See Attachment 5.3). This has enabled limited aggregation of data, voice, and video, along with integration to Frame Relay sites throughout the state. A 155.5 Mbps OC-3c line was leased for seamless Inter-LATA crossing in an effort to extend the limited "cloud" across the state. A concerted effort has been made to capture the newly developing departmental networks for incorporation into the MNT. This network has been implemented to enable a seamless rollover into the new Multi-Use Network backbone specified in this RFP for which expanded ATM and other advanced services are required to every county in the state.

1.8 New Initiatives

1.8.1 Department of Human Services (CDHS) - Efforts are currently underway to extend the Colorado Department of Human Services' existing 46 Frame Relay sites into the ATM "cloud" for connectivity to aggregation points at 3520 W. Oxford Street (Fort Logan), 1525 Sherman, and 690 Kipling.

1.8.2 Department of Human Services - Colorado Youth and Families (CYF) - The CYF program, under CDHS, has begun ATM/Frame Relay implementation into the "cloud" from 76 sites around the state. Aggregation points are located at 690 Kipling and 1525 Sherman.

1.8.3 Department of Human Services- Colorado Benefit Management System (CBMS) - Efforts are currently underway for the implementation of the CBMS Frame Relay to be integrated into and aggregated through the ATM "cloud." The CBMS requires services at the same 76 sites as the CYF (above), plus 23 additional sites.

1.8.4 Department of Public Safety- Colorado State Patrol (CSP) - Colorado State Patrol has just recently extended Frame Relay T-1 service to their five computer-aided dispatch (CAD) locations throughout the state with integration and aggregation through ATM to 690 Kipling and 4201 E. Arkansas.

1.8.5 Department of Public Safety - Colorado Bureau of Investigation (CBI) - Efforts are currently underway by CBI to implement a new statewide network to over 300 locations in Colorado with Frame Relay/ATM integration. Aggregation points will be at 690 Kipling and 4201 E. Arkansas.

1.8.6 Colorado Community Colleges and Occupational Education Services (CCCOES) - The Community College fiber network in the southeast corner of the state is currently being extended on high-speed ATM access from our location at 902 Erie, Pueblo, to the University of Colorado at Denver.

1.8.7 Judicial - Efforts are currently underway to extend ATM service to Judicial's site at 1300 Pennsylvania. Frame Relay/ATM integration and aggregation will point there as well as to 690 Kipling.

1.8.8 Department of Revenue - The Department of Revenue currently subscribes to OC-3 SONET/ATM service at 1881 Pierce for voice consolidation, ATM/Frame Relay integration, and ATM access to the CIN at 690 Kipling, with high-speed access to their location at 1313 Sherman.

1.8.10 CIN / OCIN - State access to the CIN has already been extended through the State-owned ATM switches from 690 Kipling to 1525 Sherman and 4201 E. Arkansas. ATM access to SuperNet (now Qwest) is provided through the "cloud" and southern LATA integration has been extended through the State site at 701 Court, Pueblo. OCIN is provided at 690 Kipling to 1525 Sherman through the State ATM switches and

SONET ring. OCIN InterLATA integration is currently underway from 902 Erie, Pueblo, to 690 Kipling, Lakewood.

Section 2 - Administrative Information

A. Issuing Office

This Request for Proposal (RFP) is issued for the State of Colorado, by the Colorado Division of Purchasing for Telecommunication Services. Telecommunications Services is a section of Colorado Information Technology Services, a Division of the Colorado Department of Personnel/General Support Services. The Division of Purchasing is the sole point of contact concerning this RFP.

B. Official Means of Communication

During the solicitation process for this RFP, all official communication between the DOP and Offerors will be via postings on the State's BIDS system. DOP will post notices which will include, but not be limited to, any modifications to administrative or performance requirements, answers to inquiries received, clarifications to requirements, and the announcement of the apparent winning Offeror. It is incumbent upon Offerors to carefully and regularly monitor BIDS for any such postings.

C. Statement of Purpose

This RFP provides prospective Offerors with sufficient information to enable them to prepare and submit proposals for consideration by the State to achieve the goals of this RFP.

D. Scope

This RFP contains the instructions governing the proposal to be submitted and the material to be included therein; mandatory requirements that must be met to be eligible for consideration; and other requirements to be met by each proposal.

E. SCHEDULE OF ACTIVITIES

- | | |
|---|---------------------------|
| 1. RFP Notice Sent To Prospective Vendors | October 22, 1999 |
| 2. Prospective Vendors Written Inquiry Deadline (No Questions Accepted After This Date And Time) | November 19, 1999 3:30 PM |
| 3. Mandatory Pre-Proposal Conference | November 9, 1999 |
| 4. Proposal Submission Deadline (Submit 12 Copies of the Proposal, including one original) | December 10, 1999 2:30 PM |
| 5. Oral Presentation/Site Visits | January 5, 6, 7, 2000 |
| 6. Best and Final Offer | January 19, 2000 5:00 PM |
| 7. Notice of Intent to Award | February 1, 2000 |

F. INQUIRIES

Vendors may make written, e-mail, or fax inquiries concerning this RFP to obtain clarification of requirements. No inquiries will be accepted after the date and time indicated in the Schedule of Activities. Send all inquiries to:

Division of Purchasing
225 East 16th Ave., Suite 802
Denver, Colorado 80203-1613
Fax: (303) 894-7478
RFP No. TK-00011-00 Inquiry

Address inquiries to:

Attention: Thirza Kennedy or e-mail thirza.kennedy@state.co.us

The only official response to Offeror's inquiries will be published as a modification on the BIDS system in a timely manner. Offerors should not rely on any other statements that alter any specification or other term or condition of the RFP.

G. Mandatory Pre-Proposal Conference

A Mandatory Pre-Proposal Conference will be held at the time and location listed below. All vendors must attend the entire conference and sign in and out on the attendance list provided at the conference. Only those Vendors who attend the entire pre-proposal conference will be allowed to submit a proposal. You must sign both the sign in and sign out register to be eligible for award.

Date: November 9, 1999
Time: 9:00 AM
Location: Conference Room B-70
State Services Building
1525 Sherman Street
Denver, Colorado 80203

Reference Documents are available online at the following sites:

Multi-Use Network Strategic Plan (1998):
http://www.state.co.us/gov_dir/gss/cits/comm/multinet/multinetcover.htm

HB 99-1102, The "Beanpole" bill:
<http://www.ruraltelecon.org/cif.htm>

H. MODIFICATION OR WITHDRAWAL OF PROPOSALS

Proposals may be modified or withdrawn by the vendor prior to the established due date and time.

I. PROPOSAL SUBMISSION

Proposals must be received on or before the date and time indicated in the Schedule of Activities. Late proposals will not be accepted. It is the responsibility of the vendor to ensure that the Division of Purchasing receives the proposal on or before the proposal opening date and time. Vendors mailing their proposals shall allow sufficient mail delivery time to ensure receipt of their proposals by the time specified. The proposal package shall be delivered or sent by mail to:

Division of Purchasing
225 East 16th Ave., Suite 802
Denver, Co. 80203-1613
Attention: Thirza Kennedy

The State of Colorado Invitation for Bid / Request For Proposal cover page MUST be signed in ink by the vendor or an officer of the vendor legally authorized to bind the vendor to the proposal. The signed invitation for Bid form is to be included with the proposal copy that is marked ORIGINAL.

Proposals, which are determined to be at a variance with this requirement, may not be accepted.

Proposals must be submitted and sealed in a package. The outer envelope of the package must show the following information:

OFFEROR'S NAME
RFP-NO.
PROPOSAL DUE DATE AND TIME

The Division of Purchasing desires and encourages that proposals be submitted on recycled paper, printed on both sides. While the appearance of proposals and professional presentation is important, the use of non-recyclable or non-recycled glossy paper is discouraged.

J. ADDENDUM OR SUPPLEMENT TO REQUEST FOR PROPOSAL:

In the event that it becomes necessary to revise any part of this RFP, an addendum notice will sent via the BIDS system.

K. ORAL PRESENTATIONS / SITE VISITS

Offerors may be asked to make oral presentations or to make their facilities available for a site inspection by the evaluation committee. Such presentations and/or site visits will be at the Offeror's expense.

L. ACCEPTANCE OF RFP TERMS

A proposal submitted in response to this RFP shall constitute a binding offer. Acknowledgment of this condition shall be indicated by the autographic signature of the Offeror or an officer of the Offeror legally authorized to execute contractual obligations. A submission in response to this RFP acknowledges acceptance by the Offeror of all terms and conditions including compensation, as set forth herein. An Offeror shall identify clearly and thoroughly any variations between its proposal and the State's RFP. Failure to do so shall be deemed a waiver of any rights to subsequently modify the terms of performance, except as outlined or specified in the RFP.

M. PROTESTED SOLICITATIONS AND AWARDS

Any actual or prospective vendor or contractor who is aggrieved in connection with the solicitation or award of a contract may protest to the Executive Director of the Department of Personnel/General Support Services. The protest shall be submitted in writing within seven working days after such aggrieved **person knows, or should have known, of the facts giving rise thereto** (emphasis added). Ref. Section 24-109, 101 et. seq., CRS, as amended; Section 24-109-101 through R-24-109-206, Colorado Procurement Rules.

With regard to the emphasized language above, it is important for Offerors to note that a challenge to the solicitation's requirements or specifications should be made within 7 working days of when the protestable item is known. In other words, if you believe that the solicitation contains a requirement you want to protest, the protest should be submitted within the 7 working day time period, even if that means it is filed during the time the solicitation is still open.

As noted in paragraph B above and paragraph Q below, announcement of the apparent winning Offeror will be made via a posting on the BIDS system. The requirement for timely submission of any protest (7 working days) will begin on the first working day following posting of the award notice on BIDS.

N. CONFIDENTIAL / PROPRIETARY INFORMATION

Any restrictions of the use or inspection of material contained within the proposal shall be clearly stated in the proposal itself. Written requests for confidentiality shall be submitted, by the Offeror with the proposal. The Offeror must state specifically what elements of the proposal are to be considered confidential/proprietary.

Confidential/proprietary information must be readily identified, marked and separated/packaged from the rest of the proposal. Co-mingling of confidential/proprietary and other information is

NOT acceptable. Neither a proposal, in its entirety, nor proposal price information will be considered confidential and proprietary. Any information that will be included in any resulting contract cannot be considered confidential.

The Division of Purchasing will make a written determination as to the apparent validity of any written request for confidentiality. In the event the Division of Purchasing does not concur with the Offeror's request for confidentiality, the written determination will be sent to the Offeror. Ref. Section 24-72-201 et. seq., C.R.S., as amended, Public (open) Records.

O. RFP RESPONSE MATERIAL OWNERSHIP

All material submitted regarding this RFP becomes the property of the State of Colorado. Proposals may be reviewed by any person after the "Notice of Intent to Make an Award" letter has been issued, subject to the terms of Section 24-72-201 et. seq., C.R.S., as amended, Public (open) Records.

P. PROPOSAL PRICES

Estimated proposal prices are not acceptable. Proposal prices will be considered to be your best and final offer, unless otherwise stated in the RFP. The proposal price will be considered in determining the apparent successful Offeror.

Q. SELECTION OF PROPOSAL

As described within the RFP, an Evaluation Committee will review and score offers submitted and make a recommendation for award. This selection will be for award to the responsible Offeror whose proposal is determined to be most advantageous to the State. The DOP purchasing office, after review and approval of the evaluation committee's written recommendation, will notify all Offerors via a posting on the BIDS system of the results of the RFP evaluation. The posting will be an announcement of "Notice of Intent to Make an Award" which will name the apparent successful Offeror.

R. AWARD OF CONTRACT

The award will be made to the responsible Offeror whose proposal, conforming to the RFP, will be the most advantageous to the State of Colorado, price and other factors (network technology, geographic coverage, etc.) considered. A contract must be completed and signed by all parties concerned. In the event the parties are unable to enter into a contract, the State may elect to cancel the "Notice of Intent to Make an Award" letter and make the award to the next most responsible Offeror.

S. ACCEPTANCE OF PROPOSAL CONTENT

The contents of the proposal (including persons specified to implement the project) of the successful vendor will become contractual obligations if acquisition action ensues. Failure of the successful vendor to accept these obligations in a state contract, purchase order, or similar authorized acquisition document may result in cancellation of the award and such vendor may be removed from future solicitations.

T. STANDARD CONTRACT

The State of Colorado reserves the right to incorporate standard State contract provisions into any contract resulting from this RFP including but not limited to the "Sample State Contract" provisions attached herein, and the State Special Provisions. Certain portions of the Contract may be edited or adjusted to reflect the actual award given a particular vendor. The Contract executed shall become the Master Contract used to purchase telecommunications services on behalf of state agencies, political subdivisions, or other entities authorized to purchase from this state contract.

U. RFP CANCELLATION

The state reserves the right to cancel this entire Request for Proposal or individual Phases at any time, without penalty.

V. STATE OWNERSHIP OF CONTRACT PRODUCTS/SERVICES

Proposals, upon established opening time, become the property of the State of Colorado. All products/services produced in response to the contract resulting from this RFP will be the sole property of the State of Colorado, unless otherwise noted in the RFP. The contents of the successful Offeror's proposal will become contractual obligations.

W. INCURRING COSTS

The State of Colorado is not liable for any cost incurred by Offerors prior to issuance of a legally executed contract, purchase order, or other authorized acquisition document. No property interest, of any nature shall occur until a contract is awarded and signed by all concerned parties.

X. MINORITY-OWNED/WOMAN OWNED BUSINESS ENTERPRISE PARTICIPATION

It is the state's intent to achieve the goals of the Governor's Executive Orders D0055-87 and D0005-94 regarding minority/woman owned businesses. Offeror's are reminded it is illegal to discriminate.

Y. NON-DISCRIMINATION

The vendor shall comply with all applicable state and federal laws, rules and regulations involving non-discrimination on the basis of race, color, religion, national origin, age or sex.

Z. REJECTION OF PROPOSAL

The State of Colorado reserves the right to reject any and all proposals, waive informalities and minor irregularities in proposals received, and to accept any portion of a proposal or all items proposed if deemed in the best interest of the State of Colorado.

AA. PARENT COMPANY: If an Offeror is owned or controlled by a parent company, the name, main office address and parent company's tax identification number shall be provided in the proposal. The tax identification number provided must be that of the Offeror responding to the RFP.

BB. NEWS RELEASES: News releases pertaining to this RFP shall NOT be made prior to execution of the contract without prior written approval by the State.

CC. CONTRACT CANCELLATION: The State reserves the right to cancel, for cause, any contract resulting from this RFP by providing timely written notice to the contractor.

DD. CERTIFICATION OF INDEPENDENT PRICE DETERMINATION:

1. By submission of this proposal each Offeror certifies, and in the case of a joint proposal each party, thereto certifies as to its own organization, that in connection with this procurement:

(a) The prices in this proposal have been arrived at independently, without consultation, communication, or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other Offeror or with any competitor;

(b) Unless otherwise required by law, the prices which have been quoted in this proposal have not been knowingly disclosed by the Offeror and will not knowingly be disclosed by the Offeror prior to opening, directly or indirectly to any other Offeror or to any competitor; and

(c) No attempt has been made or will be made by the Offeror to induce any other person or firm to submit or not to submit a proposal for the purpose of restricting competition.

2. Each person signing the Invitation for Bid form of this proposal certifies that:

(a) He is the person in the Offeror's organization responsible within that organization for the decision as to the prices being offered herein and that he has not participated, and will not participate, in any action contrary to (1)(a) through (1)(c) above; or

He is not the person in the Offeror's organization responsible within that organization for the decision as to the prices being offered herein but that he has been authorized in writing to act as agent for the persons responsible for such decision in certifying that such persons have not participated, and will not participate, in any action contrary to (1)(a) through (1)(c) above, and as their agent does hereby so certify; and he has not participated, and will not participate, in any action contrary to (1)(a) through (1)(c) above.

3. A proposal will not be considered for award where (1)(a), (1)(c), or (2) above has been deleted or modified. Where (1)(b) above has been deleted or modified, the proposal will not be considered for award unless the Offeror furnishes with the proposal a signed statement which sets forth in detail the circumstances of the disclosure and the head of the agency, or his designee, determines that such disclosure was not made for the purpose of restricting competition.

EE. TAXES: The State of Colorado, as purchaser, is exempt from all federal excise taxes under Chapter 32 of the Internal Revenue Code (Registration No. 84-730123K) and from all state and local government use taxes (Ref. Colorado Revised Statutes Chapter 39-26.114(a)). Our Colorado State and Local Sales Tax Exemption Number is 98-02565. Seller is hereby notified that when materials are purchased in certain political sub-divisions (for example - City of Denver) the seller may be required to pay sales tax even though the ultimate product or service is provided to the State of Colorado. This sales tax will not be reimbursed by the State.

FF. ASSIGNMENT AND DELEGATION: Except for assignment of antitrust claims, neither party to any resulting contract may assign or delegate any portion of the agreement without the prior written consent of the other party.

GG. AVAILABILITY OF FUNDS: Financial obligations of the State payable after the current fiscal year are contingent upon funds for that purpose being appropriated, budgeted and otherwise made available. In the event funds are not appropriated, any resulting contract will become null and void, without penalty to the State of Colorado.

HH. INSURANCE:

1. If the RFP so states, the contractor shall procure, at its own expense, and maintain for the duration of the contract, the following insurance coverage's; the State shall be issued certificates as an additional insured.

A. **Standard Workers' Compensation and Employer Liability** as required by state statute, including occupational disease, covering all employees on or off the work site, acting within the course and scope of their employment.

B. **General and/or Personal Injury and/or Professional and/or Automobile Liability** - (including bodily injury, personal injury and property damage) with the following minimum coverage, depending on the policy format:

1. **Occurrence** basis policy - combined single limit of \$600,000.

2. **Annual Aggregate** limit policy - not less than \$1 million plus agreement that vendor will purchase additional insurance to replenish the limit to \$1,000,000 if claims reduce the annual aggregate below \$600,000.

3. * **Claims-Made** policy - Combined single limit of \$600,000, plus an endorsement that extends coverage two years beyond the policy expiration date.

C. Vendor shall provide such other insurance as may be required by law, or in a specific solicitation.

2. The State of Colorado shall be named as an **additional insured** on all liability policies.

3. The insurance shall include a provision preventing **cancellation** without 60 calendar days prior written notice to the State by certified mail.

4. Vendor shall provide the following documentation to the State within 7 working days of a request therefor, unless otherwise provided:

A. **Certificate/s** of adequate insurance coverage, each with a reference to the State being named as an additional insured, or

B. **Certificate/s** of adequate insurance coverage and an **endorsement/s** of additional insured coverage.

II. INDEPENDENT CONTRACTOR CLAUSE: All personal service contracts must contain the following clause:

THE CONTRACTOR SHALL PERFORM ITS DUTIES HEREUNDER AS AN INDEPENDENT CONTRACTOR AND NOT AS AN EMPLOYEE. NEITHER THE CONTRACTOR NOR ANY AGENT OR EMPLOYEE OF THE CONTRACTOR SHALL BE OR SHALL BE DEEMED TO BE AN AGENT OR EMPLOYEE OF THE STATE. CONTRACTOR SHALL PAY WHEN DUE ALL REQUIRED EMPLOYMENT TAXES AND INCOME TAX WITHHOLDING, SHALL PROVIDE AND KEEP IN FORCE WORKER'S COMPENSATION (AND SHOW PROOF OF SUCH INSURANCE) AND UNEMPLOYMENT COMPENSATION INSURANCE IN THE AMOUNTS REQUIRED BY LAW, AND SHALL BE SOLELY RESPONSIBLE FOR THE ACTS OF THE CONTRACTOR, ITS EMPLOYEES AND AGENTS."

JJ. VENUE: The laws of the State of Colorado, U.S.A. shall govern in connection with the formation, performance and the legal enforcement of any resulting contract. Further, Title 24, C.R.S. as amended, Article 101 through 112 and Rules adopted to implement the statutes govern this procurement.

KK. SPECIAL PROVISIONS:

CONTROLLER'S APPROVAL

1. This contract shall not be deemed valid until it shall have been approved by the Controller of the State of Colorado or such assistant as he may designate. This provision is applicable to any contract involving the payment of money by the State.

FUND AVAILABILITY

2. Obligations of the State of Colorado payable after the current fiscal year are contingent upon funds for that purpose being appropriated, budgeted, and otherwise made available.

BOND REQUIREMENT

3. If this contract involves the payment of more than fifty thousand dollars for the construction, erection, repair, maintenance, or improvement of any building, road, bridge, viaduct, tunnel, excavation or other public work for this State, the contractor shall, before entering upon the performance of any such work included in this contract, duly execute and deliver to the State official who will sign the contract, a good and sufficient bond or other acceptable surety to be approved by said official in penal sum not less than one-half of the total amount payable by the terms of this contract. Such bond shall be duly executed by a qualified corporate surety conditioned upon the faithful performance of the contract and in addition, shall provide that if the contractor or his subcontractors fail to duly pay for any labor, materials, team hire, sustenance, provisions, provender or other supplies used or consumed by such contractor or his subcontractor in performance of the work contracted to be done or fails to pay any person who supplies rental machinery, tools, or equipment in the prosecution of the work the surety will pay the same in an amount not exceeding the sum specified in the bond, together with interest at the rate of eight per cent per annum. Unless such bond is executed, delivered and filed, no claim in favor of the contractor arising under such contract shall be audited, allowed or paid. A certified or cashier's check or a bank money order payable to the Treasurer of the State of Colorado may be accepted in lieu of a bond. This provision is in compliance with CRS 38-26-106

INDEMNIFICATION

4. To the extent authorized by law, the contractor shall indemnify, save, and hold harmless the State, its employees and agents, against any and all claims, damages, liability and court awards including costs, expenses, and attorney fees incurred as a result of any act or omission by the contractor, or its employees, agents, subcontractors, or assignees pursuant to the terms of this contract.

DISCRIMINATION AND AFFIRMATIVE ACTION

5. The contractor agrees to comply with the letter and spirit of the Colorado Antidiscrimination Act of 1957, as amended and other applicable law respecting discrimination and unfair employment practices (CRS 24-34-402), and as required by Executive Order, Equal Opportunity and Affirmative Action, dated April 16, 1975. *Pursuant thereto, the following provisions shall be contained in all State contracts or sub-contracts.*

(a) The contractor will not discriminate against any employee or applicant for employment because of race, creed, color, national origin, sex, marital status, religion, ancestry, mental or physical handicap, or age. The contractor will take affirmative action to insure that applicants are employed, and that employees are treated during employment, without regard to the above mentioned characteristics. Such action shall include, but not be limited to the following: employment upgrading, demotion, or transfer, recruitment or recruitment advertisements; lay offs or terminations; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in

conspicuous places, available to employees and applicants for employment, notices to be provided by the contracting officer setting forth provisions of this non-discrimination clause.

(b) The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, creed, color, national origin, sex, marital status, religion, ancestry, mental or physical handicap, or age.

(c) The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, notice to be provided by the contracting officer, advising the labor union or workers' representative of the contractor's commitment under the Executive Order, Equal Opportunity and Affirmative Action, dated April 16, 1975, and of the rules, regulations, and relevant Orders of the Governor.

(d) The contractor and labor unions will furnish all information and reports required by Executive Order, Equal Opportunity and Affirmative Action of April 16, 1975, and by the rules, regulations and Orders of the Governor, or pursuant thereto, and will permit access to his books, records and accounts by the contracting agency and the office of the Governor or his designee for purposes of investigation to ascertain compliance with such rules, regulations and orders.

(e) A labor organization will not exclude any individual otherwise qualified from full membership rights in such labor organization, or expel any such individual from membership in such labor organization or discriminate against any of its members in the full enjoyment of work opportunity because of race, creed, color, sex, national origin, or ancestry.

(f) A labor organization, or the employees or members thereof will not aid, abet, incite, compel or coerce the doing of any act defined in this contract to be discriminatory or obstruct or prevent any person from complying with the provisions of the contract or any order issued thereunder; or attempt, either directly or indirectly, to commit any act defined in this contract to be discriminatory.

(g) In the event of the contractor's non-compliance with the non-discrimination clauses of this contract or with any of such rules, regulations, or orders, this contract may be canceled, terminated or suspended in whole or in part and the contractor may be declared ineligible for further State contracts in accordance with procedures, authorized in Executive Order, Equal Opportunity and Affirmative Action of April 16, 1975 and the rules, regulations, or orders promulgated in accordance therewith, and such other sanctions as may be imposed and remedies as may be invoked as provided in Executive Order, Equal Opportunity and Affirmative Action of April 16, 1975, or by rules, regulations, or orders promulgated in accordance therewith, or as otherwise provided by law.

(h) The contractor will include the provisions of paragraphs (a) through (h) in every sub-contract and subcontractor purchase order unless exempted by rules, regulations, or orders issued pursuant to Executive Order, Equal Opportunity and Affirmative Action of April 16, 1975, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any sub-contracting or purchase order as the contracting agency may direct, as a means of enforcing such provisions, including sanctions for non-compliance; provided, however, that in the event the contractor becomes involved in, or is threatened with, litigation, with the subcontractor or vendor as a result of such direction by the contracting agency, the contractor may request the State of Colorado to enter into such litigation to protect the interest of the State of Colorado

COLORADO LABOR PREFERENCE

6a. Provisions of CRS 8-17-101 & 102 for preference of Colorado labor are applicable to this contract if public works within the State are undertaken hereunder and are financed in whole or in part by State funds.

b. When a construction contract for a public project is to be awarded to a bidder, a resident bidder shall be allowed a preference against a non-resident bidder from a state or foreign country equal to the preference given or required by the state or foreign country in which the non-resident bidder is a resident. If it is determined by the officer responsible for awarding the bid that compliance with this subsection 6 may cause denial of federal funds which would otherwise be available or would otherwise be inconsistent with requirements of Federal law, this subsection shall be suspended, but only to the extent necessary to prevent denial of the money or to eliminate the inconsistency with Federal requirements (CRS 8-19-101 and 102).

GENERAL

7. The laws of the State of Colorado and rules and regulations issued pursuant thereto shall be applied in the interpretation, execution, and enforcement of this contract. Any provision of this contract whether or not incorporated herein by reference which provides for arbitration by an extra-judicial body or person or which is otherwise in conflict with said laws, rules, and regulations shall be considered null and void. Nothing contained in any provision incorporated herein by reference which purports to negate this or any other special provision in whole or in part shall be valid or enforceable or available in any action at law whether by way of complaint, defense, or otherwise. Any provision rendered null and void by the operation of this provision will not invalidate the remainder of this contract to the extent that the contract is capable of execution.

8. At all times during the performance of this contract, the Contractor shall strictly adhere to all applicable federal and state laws, rules, and regulations that have been or may hereafter be established.

9. Pursuant to CRS 24-30-202.4 (as amended), the state controller may withhold debts owed to state agencies under the vendor offset intercept system for: (a) unpaid child support debt arrearages; (b) unpaid balance of tax, accrued interest, or other charges specified in Article 22, Title 39, CRS; (c) unpaid loans due to the student loan division of the department of higher education; (d) owed amounts required to be paid to the unemployment compensation fund; and (e) other unpaid debts owing to the state or any agency thereof, the amount of which is found to be owing as a result of final agency determination or reduced to judgement as certified by the controller.

10. The signatories aver that they are familiar with CRS 18-8-301, et. seq., (Bribery and Corrupt Influences) and CRS 18-8-401, et. seq., (Abuse of Public Office), and that no violation of such provisions is present.

11. The signatories aver that to their knowledge, no state employee has any personal or beneficial interest whatsoever in the service or property described herein:

LL. YEAR 2000 WARRANTY INFO

Year 2000 Warranty (Other than Construction)

The contractor or vendor warrants that the software, firmware, or supplies delivered, or services performed, under this contract or purchase order to be used before, during, and after the turn of the century (January 1, 2000) are "Year 2000 compliant." "Year 2000 compliant" means fault-free performance in the processing of date and date-related data (including, but not limited to calculating, comparing, and sequencing) by all software products, firmware, and supplies, individually and in combination as a system, when used in accordance with the product documentation provided by the contractor or vendor. Fault-free performance means :

- no invalid or incorrect results or abnormal termination prior to, during, and after January 1, 2000 as a result of date or date-related data or data processing that represents or references different centuries or more than one century; and
- proper calculation and handling of leap years; and
- except for normal user interfaces (e.g. four digit date entry) identified in the contractor's or vendor's documentation, such date data processing shall be transparent to the user.

In the event this warranty is breached, the State may elect to (1) return the software or supply and receive a refund of the purchase price (in the case of delivered software or supplies) or (2) require the contractor or vendor to make all code revisions or repairs/replacements of firmware or supplies, as well as revisions to associated documentation, at no cost to the State in order to ensure that the software, firmware or supplies are Year 2000 compliant so long as notice of such defect is provided no later than 90 days after discovery. This warranty shall survive acceptance of the software, firmware, or supplies and is not subject to any disclaimer or limitation of warranty or other limitation of the contractor's or vendor's liability which may be specified in this contract or purchase order, or any exhibits, appendices, or any other document attached or incorporated in this contract or purchase order by reference. The remedies specified herein shall

not be exclusive remedies and shall not limit any other remedy at law or equity available to the State.

| |
|--|
| Department or Agency Number AMA |
| Contract Routing Number <u>00</u> - |
| |

SAMPLE STATE CONTRACT

TELECOMMUNICATIONS MULTI-USE NETWORK CONTRACT

THIS CONTRACT is made this _____ day of _____, in the year Two Thousand, between the STATE OF COLORADO, acting by and through the Department of Personnel, General Support Services, Colorado Information Technology Services, Telecommunication Services, with offices at 2452 West Second Avenue, Unit #19, Denver, CO 80223, for the use and benefit of the state agencies and institutions; each of whom are referred to herein as ("State", or "Customer") and _____, a [State of Incorporation] Corporation with offices at _____, hereinafter to as "Contractor" or "Vendor."

RECITALS

WHEREAS, the funds exist in the Law and Funds have been budgeted, appropriated, and otherwise made available and a sufficient uncommitted balance thereof remains available for encumbering and subsequent payment of this contract in Fund Number _____, Appropriation Account _____, and Organization Code _____, for these telecommunication services.

WHEREAS, required approval, clearance and coordination has been accomplished from and with appropriate agencies; and

WHEREAS, [Contractor's NAME] has been selected as the successful Vendor of State's Request For Proposal, RFP Number TK-00011-00, for the purpose of providing statewide high speed network infrastructure, connectivity to the equipment of State Aggregated Network Access Points, "ANAP" on behalf of all state agencies, municipalities, political sub-divisions, throughout the State, including rural Colorado; and

WHEREAS, in consideration for the performance of said work and services, the State agrees to pay to [CONTRACTOR'S NAME], fees and charges specified below, and

WHEREAS, the procurement of these services is authorized by the Colorado Procurement Code, and

WHEREAS, the State hereby warrants and represents that it has complied with the provisions of all applicable State of Colorado statutes, rules and regulations in order to enter into this Contract, as defined herein below; and

WHEREAS, the Contractor wishes to provide telecommunications services to the State as described in Paragraph #1, Scope of Work, below, and the State has a required need for such service.

NOW THEREFORE, it is hereby agreed that in consideration of the mutual covenants and other good and valuable consideration, the sufficiency of which is hereby acknowledged, the State and Contractor agree to the following terms and conditions shall apply to [CONTRACTOR'S NAME]'s Contract for Service.

1. SCOPE OF WORK.

1.1 Subject to the terms and conditions set forth herein, the Vendor shall engineer, provide, deliver, test, and document the State's Multi-Use Network, "MNT" that provides the Telecommunications Backbone Network for the State and interfaces with the State "ANAP"s in accordance with the "Project" schedule proposed in the vendor's response to RFP# TK-00011-00, the "Project".

In general, the Contractor will provide secure, high speed, fiber-based telecommunication services capable of transporting data, video, and voice seamlessly to all ANAP's connected to the statewide network. *Rest needs detailed when finalized in the requirements part of the RFP.*

....(Detailed description of Scope of Work to follow.)

The Contractor has developed a "Project" Schedule that describes all required areas of coverage and implementation phase timetable which shall be strictly adhered to. This "Project" Schedule has fully described the services, and/or hardware/software to be provided detailed project timetables, and detailed Engineering specifications. The Contractor shall submit a final "Project" Schedule and "MNT" system configuration to the State for approval prior to phase work being initiated.

1.2 "MNT" System Design and Performance Responsibility. The Vendor has complete responsibility for acceptable performance of the entire "MNT", including but not limited to the system design, implementation in accordance with the proposed schedule, and daily operational performance of the "MNT". The Vendor shall insure that performance standards for the technology in use, and as submitted in the Vendor's RFP Proposal are consistently met for the duration that services are provided. Final and interim "MNT" acceptance shall be based upon requirements in RFP, Section(s) _____, and the system acceptance plan developed by the vendor and approved by the State. Time is of the essence in meeting the proposed implementation schedule, and failure to perform in accordance with the schedule shall carry penalties as defined in paragraph 2.6, Liquidated Damages.

1.3 Any "MNT" service contracted for by the State herein shall be delivered to its proper location by the Vendor at the cost proposed to the State. The State shall not be deemed to have accepted, for the purposes of its Phase Acceptance Milestones, any component, service, or piece of hardware and/or software until such time as said service, hardware and/or Software has been properly installed, is operating in accordance with the acceptance technical specifications and is accepted by the State as completed.

1.4 The service, or hardware/software provided by the Vendor for the proper functioning of the System, shall be maintained and supported at no additional cost as specified in paragraph 5 and 13, Warranties and Remedies respectively, of this contract, for the full term of this contract, and any option periods exercised by the State. The contractor warrants that response times for service outages will be governed by the terms specified in the request for Proposals.

1.4.1 The Contractor shall propose the State in writing any System Upgrades, revisions, updates, technology improvements or most favorable discount terms which may offered to its customers within thirty (30) days of the offer or release to the general public, throughout the remaining term of the contract. The State may accept such "enhancements," if desired, by the change order process specified in paragraph 1.5 below.

1.4.2 The Contractor agrees to continually provide to the State functionality based upon the most current adopted standards for the industry.

1.5 Change Orders

By a written order, at any time, and without notice to any surety, the procurement officer may, subject to all appropriate adjustments, make changes within the general scope of this contract including but not limited to the following:

- 1) Minimum performance requirements at any "ANAP";

- 2) Time of performance of services on the "Project" Schedule;
- 3) Physical location of any "ANAP".
- 4) System Upgrades to any or all "ANAP"s of the "MNT" system.

Adjustments of Price or Time or Performance

If any such change order increases or decreases the contractor's cost of, or the time required for, performance of any part of the work under this contract, an adjustment shall be made and the contract modified in writing accordingly. Any adjustment in contract price made pursuant to this clause shall be determined in accordance with the Price Adjustment Clause of this contract.

Failure of the parties to agree to an adjustment

Failure of the parties to agree to an adjustment shall not excuse the contractor from proceeding with the contract as changed, provided that the purchasing agency promptly and duly makes such provisional adjustments in payment or time for performance as may be reasonable. By proceeding with the work, the contractor shall not be deemed to have prejudiced any claim for additional compensation, or an extension of the time for completion.

Time Period for Claim

Within 30 days after receipt of a written change order under the Change Order paragraph of this clause, unless such period is extended by the procurement officer in writing, the contractor shall file notice of intent to assert a claim for an adjustment.

Claim Barred After Final Payment

No claim by the contractor for an adjustment hereunder shall be allowed if asserted after final payment under this contract.

Bilateral Change Order Letters

Bilateral changes within the general scope of the contract may be executed using the simplified change order letter process described in this paragraph and the model letter attached as exhibit _____ for any of the following reasons:

- 1) Where the agreed changes result in no adjustment to the [price] [ceiling cost], delivery schedule, or other terms and conditions of the contract. The change letter will contain a mutual release of claims for adjustment of price, cost, time for performance, or other terms and conditions, whether based on costs of changed work or direct or indirect impacts on unchanged work, as a result of the change; or
- 2) Where the changes to the contract are priced based on the unit prices to be paid for the goods or services in [Exhibit ____] [Attachment ____] of the contract; or
- 3) Where the changes to the contract are priced based on established catalog prices generally extended to the public, or on prices or rates set by law or regulation;

Written bilateral change order letter

The written bilateral change order letter will be substantially in the form at Exhibit _____, must bear the signature of the authorized agency official, the contractor, and--except where the parties agree on the face of the change order that no price/cost, schedule, or other contract adjustments are due the contractor--the State Controller or his designee. The change order letter shall refer to the basic contract and include a detailed description of the changes to the contract, the price or cost ceiling adjustment, the effective date, and (where applicable) the time within which the changed work must be done. Other bilateral modifications to this contract not within the scope of this paragraph must be executed by formal amendment to the contract, approved in accordance with State law.

a) Price Adjustments

- A. Price Adjustment Method. Any adjustment in contract price pursuant to the application of a clause in this contract shall be made in one or more of the following ways:

- 1) By agreement on a fixed-price adjustment;
- 2) By unit prices specified in the contract;
- 3) In such other manner as the parties may mutually agree; or
- 4) In the absence of agreement between the parties, by a unilateral determination by the procurement officer of the costs attributable to the event or situation covered by the clause, plus appropriate profit or fee.

B. **Submission of Cost or Pricing Data.** The contractor shall provide cost or pricing data for any price adjustment subject to the provisions of the Cost or Pricing Data Section of the Colorado State Procurement Rules.

1.6 Intellectual Property Rights

Any software, reports, data, manuals, or other documents, drawings or materials ("works") delivered or prepared by contractor in the performance of its obligations under this contract shall be subject to an irrevocable nonexclusive, perpetual, paid-up, transferable license to use, and permit others to use for State purposes, the software, reports, data, or other documents, drawings, or materials. The use rights described herein shall include but not be limited to, the right to copy, publish, display, transfer, prepare derivative works, or otherwise use the works.

1.7 Data and Document Deliverables

a) Unless otherwise specified, the contractor shall deliver by the dates specified in the order the data or documents required by the Request for Proposal, as well as any proposed by the contractor.

Database of System configurations, management monitoring system specifications and requirements, etc.

b) It is the intent of the parties that documentation be written so persons reasonably proficient in the use of the program language or generally familiar with the type of telecommunication services involved can efficiently use the documentation to understand the equipment functions, troubleshoot problems, and in the case of software, understand program structure, iterative and other control techniques, and decipher error messages should they occur. The contractor warrants that the delivered documentation will be sufficiently descriptive to enable maintenance troubleshooting of the telecommunication services consistent with the intended uses of the telecommunication services and software.

2. PERFORMANCE PERIOD.

2.1. TERM

Subject to availability of funds, the term of this Contract will be effective upon approval by the State Controller ("Commencement Date"), or designee, and shall continue through _____, five year from the contract start date, subject to termination as provided herein and availability of funds for payments due in subsequent fiscal years.

2.2 OPTIONS

The State may require continued performance for a period of five subsequent years in one year increments of renewal of any services within the limits and at the rates specified in the contract. The State may exercise the option by written notice to the contractor deposited in the mail before the end of the performance period of the contract using a form substantially equivalent to Exhibit _____. If the State exercises this option, the extended contract shall be considered to include this option provision. The total duration of this contract, including the exercise of any options under this clause, shall not exceed ten (10) years. Financial obligations of the State of Colorado payable after the current fiscal year are contingent upon funds for that purpose being appropriated, budgeted, and otherwise made available.

2.3 AVAILABILITY OF FUNDS

- A. The parties hereto understand and agree this contract is contingent upon continuing availability of funds as provided in Special Provision Two (2) hereinafter, and that the State is prohibited by law from making fiscal commitments beyond the term of its current fiscal period. The State may terminate this contract as provided in the following paragraphs.
- B. The State has reason to believe that sufficient funds will be available for the full term of the contract. Where, for reasons beyond State's control, its funding entity does not allocate funds for any fiscal period beyond the one in which this contract is entered into, or beyond a succeeding fiscal period, where State has exhausted efforts to obtain funds legally available for future fiscal periods, and where such failure to obtain funds does not result from any act or failure to act on the part of State, State will not be obligated to make the payments remaining beyond State's then current fiscal period, nor shall State be liable for any penalty therefore. In that event, State shall notify contractor of such non-allocation of funds by sending written notice thereof to the contractor thirty (30) days prior to the effective date of termination.
- C. To supplement the provisions of Special Provision paragraph 2 of this contract regarding fund availability, and to make certain the understanding of the parties because the contract will extend beyond the current fiscal year, State and contractor understand and intend that the obligation of the State to pay the annual charges hereunder constitutes a current expense of the State payable exclusively from State's funds and shall not in any way be construed to be a general obligation indebtedness, or other multiple fiscal year financial obligation whatsoever, of the State of Colorado or any agency or department thereof, within the meaning of any provision of sections 1, 2, 3, 4 or 5 of article XI, Section 20 of article X, of the Colorado Constitution, or any other constitutional or statutory limitation or requirement applicable to the State concerning the creation of indebtedness. Neither the State, nor the contractor on its behalf, has pledged the full faith and credit of the State, or any agency or department thereof, to the payment of the charges hereunder, and this contract shall not directly or contingently obligate the State, or any agency or department thereof, to apply money from, or levy or pledge any form of taxation to, the payment of the annual charges.

2.4 "PROJECT" SCHEDULE

The Contractor warrants that it can design and furnish an integrated, fully functioning "MNT" having the components and coverage described in accordance with the "Project" schedule in the request for proposal, and the Vendor's Response. A detailed deliverable implementation schedule is itemized in Exhibit __. The not-to-exceed amount by fiscal year periods, subject to adjustment in accordance with the Change Order paragraph, is as follows:

| | |
|-------------------------|----------------------|
| Fiscal Year 1: \$ _____ | Delivered by: _____. |
| Fiscal Year 2: \$ _____ | Delivered by: _____. |
| Fiscal Year 3: \$ _____ | Delivered by: _____. |
| Fiscal Year 4: \$ _____ | Delivered by: _____. |
| Fiscal Year 5: \$ _____ | Delivered by: _____. |

2.5 "PROJECT" PERFORMANCE IMPORTANCE

The parties agree that "time is of the essence" for implementation of the "Project" Schedule. Subject to extensions of time pursuant to the force majeure clause, or for reasons attributable to the fault of the State, the contractor will complete the service implementation for the "ANAP"s by the dates specified in the RFP. Failure to complete the milestones by the dates specified in the "Project" Schedule shall be grounds for termination for default, liquidated damages, and any other remedies available to the State.

2.6 LIQUIDATED DAMAGES

When the contractor is given notice of delay or nonperformance and fails to cure in the time specified, in addition to any other damages that are applicable, the contractor shall be liable for \$205.00 per "ANAP" per calendar day from date set for cure until either the purchasing agency reasonably obtains similar supplies or services if the contractor is terminated for default, or until the contractor provides the supplies or services if the contractor is not terminated for default. To the extent that the contractor's delay or nonperformance is excused under paragraph 15(d) of the Termination for Default Clause, the Excuse for Nonperformance or Delayed Performance, or paragraph 14, Force Majeure of this contract, liquidated damages shall not be due the purchasing agency. The parties agree that the damages from breach of this contract are difficult to prove or estimate, and the amount of liquidated damages

specified herein represents a reasonable estimation of damages that will be suffered by the State from late performance, including costs of additional inspection and oversight, lost opportunity for additional efficiencies that would have attended on-time completion of performance. Liquidated damages assessed shall reduce the then current invoice amount to be paid. Assessment of liquidated damages shall not be exclusive of or in any way limit remedies available to the State at law or equity for contractor breach.

3. CHARGES.

3.1 Unless otherwise specified in the award, this contract does not require the State or any other ordering entity to satisfy any particular requirement or order any minimum quantity of telecommunications services. The State and any ordering entity will pay at the rates in the contractor's proposal in accordance with the volume discount pricing extended and accepted by the State for guaranteeing minimum quantities or satisfying specific requirements, if applicable. Otherwise, the contractor will be entitled to payment for services at the unit rates otherwise specified.

The following clause, 3.2, will be applicable if proposed to and accepted by the State:

3.2 Indefinite Delivery / Indefinite Quantity Contract

A) The quantities and services specified in the Schedule are estimates only and are not purchased by this contract. Delivery or performance shall be made only as authorized by change-order letters issued in accordance with the Bi-lateral Change clause. The contractor shall furnish to the State, when and if ordered, the supplies and services specified. Any order issued during the effective period of this contract and not completed within that period shall be completed by the Contractor within the time specified in the order. The contract shall govern the contractors and State's rights and obligations with respect to that order to the same extent as if the order were completed during the contract's effective period; provided, that the contractor shall not be required to make any deliveries under this contract after _____. (insert date)

Funds are available and encumbered in the amount of \$_____, for FY1999-2000. The contractor shall not accept any orders which create a financial obligation of the State exceeding the amount of available funds specified herein. Additionally, the contractor shall notify the representative when State commitments, paid and unpaid, are within 10% of the amount of funds available. The State is not liable beyond the amount of funds specified as available in this paragraph.

The State may from time to time, in a form substantially equivalent to that in Exhibit _____, and bearing the approval of the State Controller or his designee, make more funds available on this contract. The funds availability letter shall not be deemed valid until it shall have been approved by the State Controller or such assistant as he may designate.

B) Additional pricing discounts

The Contractor has proposed additional pricing discounts in Exhibit ____, Vendor's Response to the RFP. It details percentage discounts off rates for telecommunications services that will be applied monthly based on overall volume of service or equipment ordered by State agencies, institutions, and political subdivisions, minimum quantities of service or equipment orders by ordering entities, or any combination. Such additional pricing discounts proposed in the RFP represent contractual commitments by the Contractor. Proposed credits or rebates based on volume of telecommunications services and/or customer premise equipment, shall be offered in accordance with the RFP response, and requires administration of its credit/rebate system as proposed in the RFP for tracking and reporting the usage and available credit/rebate by ordering entity.

3.3 The Contractor shall submit a written performance report detailing the operational rates for each Contractor's duties and obligations, and a summary report of the implementation of "ANAP"s as defined by the

“Project” Schedule detailed in Exhibit _____, on a quarterly basis, or as specified in Exhibit _____. The Contractor shall also provide quarterly, the volume of billing in comparison to the “not-to-exceed” amount of the contract for the current fiscal year detailed in paragraph 2.3. The preparation of reports in a timely manner shall be the responsibility of the Contractor and failure to comply may result in withholding or elimination of payment of funds and/or termination of the Contract. “ANAP”’s not meeting the required performance standards shall be subject to the charges detailed in paragraph 2.5, “Liquidated Damages”.

3.4 As specified in Exhibit _____, payment for any services will not be made until inspections and acceptance are made in accordance with paragraph 4 below.

3.5 The State shall have the right to purchase service or equipment during the “Project” Schedule Implementation; at the rates proposed in the vendor's response to the RFP, or the lowest prevailing discounted rates charged by the Contractor, whichever is less, not to exceed the total price specified in paragraph 2.3 for the configuration specified in the RFP. The Contractor shall offer the equipment itemized in the RFP or proposed technologically updated compliant service or equipment not itemized at the time of the award, which incorporates the most recent and current standards and functionality which are compatible with the existing “MNT” system, at the lowest prevailing discounted market rates. This Contract makes no guarantees of the volume of equipment or services beyond any yearly minimums specified elsewhere in this contract to be ordered during subsequent years of the Contract option periods.

3.6 Total cost of this Contract shall not exceed \$ _____, if there are no variations from the original RFP proposal based on the “ANAP” locations proposed by the vendor in their response to the RFP, and accepted and specified by the State in this contract.

4. INSPECTION AND ACCEPTANCE. The State reserves the right to inspect services performed and supplies and equipment delivered under this Contract at all reasonable times and places during the term of the Contract. If any of the services or supplies do not conform with Contract requirements, the State may reject nonconforming supplies or require the Contractor to perform the services again in conformity with Contract requirements, with no additional payment. In the case of a State election to accept nonconforming tender, or when defects in quality or quantity of service cannot be corrected by re-performance, the State may (1) require the Contractor to take necessary action to insure that the future performance conforms with the contract requirements and (2) equitably reduce the payment due the Contractor to reflect the reduced value of the services performed or supplies accepted. These remedies in no way limit the otherwise remedies available to the State in this Contract or remedies otherwise available at law or equity.

5. WARRANTIES. Contractor warrants that all supplies (and services) furnished under this Contract shall be free from defects in materials or workmanship, are installed properly and in accordance with manufacturers recommendations or other industry standards, and will function in a manner which meets industry accepted performance standards and/or descriptions which have been submitted by the Contractor as part of their RFP proposal, from the date of acceptance of installation for the duration of the “Project.” Contractor shall, at its option, repair or replace any supplies or re-perform services that fail to satisfy this warranty during the warranty period. Additionally, contractor agrees to assign to the State all written manufacturers warranties relating to the supplies and to deliver such written warranties to the customer. The existence of this or any other express warranty in this contract shall not impair or limit the remedies otherwise granted under this contract or available to the State at law or equity.

6. BILLING FOR SERVICE.

6.1. CUSTOMER shall pay each bill in full within forty-five (45) days of delivery of supplies or equipment or completion of services, after receipt of an acceptable invoice describing the supplies delivered, services performed date of delivery or performance, and account of payment due pursuant to this Contract. A State liability not paid within forty-five days is considered delinquent and interest on the unpaid balance shall be paid beginning with the forty-sixth day at the rate of one-percent per month on the unpaid balance until paid in full. A liability shall not arise if a good faith dispute exists as to the agency's obligation to pay all or a portion of the liability.

7. TAX EXEMPT STATUS. It is hereby recognized and acknowledged by [CONTRACTOR'S NAME] that CUSTOMER is tax-exempt and is not liable for any sales, use, excise, property, or other taxes imposed by any federal, state or local government tax authority. CUSTOMER's FEIN # is 84-730123K. CUSTOMER's tax exemption number is 98-02565. CUSTOMER is also not liable for any taxes of [CONTRACTOR'S NAME] for franchise or related to the income of the [CONTRACTOR'S NAME]. No taxes of any kind shall be charged to CUSTOMER.

8. CONFIDENTIALITY. In the event the contractor or its employees shall obtain access to any confidential information, records or files of the ordering entity in connection with the performance of its obligations under this agreement or any order placed pursuant to this agreement, the contractor shall keep such records, files, and information confidential and shall comply with all laws and regulations concerning the confidentiality of such records to the same extent as such laws and regulations apply to the ordering entity. "Confidential information, records or files" shall not mean information which the ordering entity has denominated in writing as not confidential; or information which at the time of disclosure is in the public domain by having been printed and published and widely available to the public, e.g. information in public libraries or repositories. The contractor shall notify its employees in writing that they are subject to the confidentiality requirements set forth above.

9. FACILITIES AND/OR PROPERTY FURNISHED BY THE ORDERING ENTITY

9.1 The ordering entity shall deliver to the contractor, for use in connection with and under the terms of the contract, the facilities or property described in the order together with any related data and information that the contractor may request and is reasonably required for the intended use of the property (hereinafter referred to as "government-furnished property"), a list of which is furnished in Exhibit ____.

9.2. The ordering entity and its designees shall have access at all reasonable times to the premises in which any government-furnished property is located for the purpose of inspecting the property. The contractor shall maintain an inventory and accountability system acceptable to the ordering entity, and mark or tag the property in accordance with reasonable procedures of the ordering entity.

9.3. Risk of loss. Unless otherwise provided in the order, the contractor assumes the risk of, and shall be responsible for, any loss or destruction of, or damage to, government-furnished property or facilities upon its delivery to or use by the contractor. However, the contractor is not responsible for reasonable wear and tear to property of the ordering entity or for government-furnished property properly consumed in performing the order.

9.4 Equitable adjustment. When this clause specifies an equitable adjustment, it shall be made to any affected contract provision in accordance with the procedures of the Changes clause. When appropriate, the State may initiate an equitable adjustment in favor of the State. The right to an equitable adjustment shall be the contractor's exclusive remedy. The State shall not be liable to suit for breach of contract for:

- 1) Any delay in delivery of State-furnished property;
- 2) Delivery of State-furnished property in a condition not suitable for its intended use;
- 3) A decrease in or substitution of State-furnished property; or
- 4) Failure to repair or replace State property for which the State is responsible.

9.5. Upon completing the order, or at such earlier dates as may be fixed by the ordering entity, the contractor shall submit, in a form acceptable to the ordering entity, inventory schedules covering all items of government-furnished property not consumed in performing the contract or delivered to the ordering entity. The contractor shall prepare for shipment, deliver f.o.b. origin, or dispose of the government-furnished property as may be directed or authorized by the ordering entity. The net proceeds of any such disposal shall be credited to payment due under the order or shall be paid to the ordering entity as it may direct.

10. LAWFULNESS. This Contract and the parties' actions under this Contract shall comply with all applicable federal, state, and local laws, rules, regulations, court orders, and governmental agency orders.

11. LEGAL AUTHORITY. The Contractor warrants that it possesses the legal authority to enter into this Contract and that it has taken all actions required by its procedures, by-laws, and/or applicable law to exercise that

authority, and to lawfully authorize its undersigned signatory to execute this Contract and to bind the Contractor to its terms. The person(s) executing this Contract on behalf of the Contractor warrant(s) that such person(s) have full authorization to execute this Contract.

12. SEVERABILITY. To the extent that this Contract may be executed and performance of the obligations of the parties may be accomplished within the intent of the Contract, the terms of the Contract are severable, and should any term or provision hereof be declared invalid or become inoperative for any reason, such invalidity or failure shall not affect the validity of any other term or provision hereof.

13. REMEDIES. In addition to any other remedies provided for in this Contract and without limiting its remedies otherwise available at law, the State may exercise the following remedial actions if [CONTRACTOR'S NAME] substantially fails to satisfy the duties and obligations in the Contract. Substantial failure to satisfy the duties and obligations shall be defined to mean significant insufficient, incorrect, improper performance, activities, or inaction by (CONTRACTOR'S NAME). These remedial actions are as follows:

13.1 Suspend [CONTRACTOR'S NAME]'s performance pending necessary corrective action as specified by CUSTOMER without [CONTRACTOR'S NAME]'s entitlement to adjustment in price/cost or schedule; and/or

13.2 Withhold payment to [CONTRACTOR'S NAME] until the necessary Services or corrections in performance are satisfactorily completed; and/or

13.3 Deny payment for Services which have not been performed or conforming supplies or equipment not delivered due to circumstances caused by [CONTRACTOR'S NAME].

13.4 Terminate the Contract for default.

The above remedies are cumulative and the ordering entity, in its sole discretion, may exercise any or all of them individually or simultaneously.

14. FORCE MAJEURE.

Neither the Contractor nor the State shall be liable to the other for any delay in, or failure of performance of, any covenant or promise, nor shall any delay or failure constitute default or give rise to any liability for damages if, and only to the extent that, such delay or failure is caused by "force majeure". "Force majeure" means acts of God; acts of the public enemy; acts of the State and any governmental entity in its sovereign or contractual capacity; fires; floods; epidemics, quarantine restrictions; strikes or other labor disputes; freight embargoes; or unusually severe weather, or any other cause which is beyond the control of the party affected and which, by the exercise of reasonable diligence, could not have been prevented by the party affected.

The existence of such causes of delay or failure shall extend the period for performance to such extent as may be necessary to enable the complete performance in the exercise of reasonable diligence after the causes of delay or failure have been removed. Nothing in this paragraph shall prevent the State from covering its requirements from another vendor during the period of delay.

15. TERMINATION FOR DEFAULT/CAUSE.

a. **Default.** If the Contractor refuses or fails to timely perform any of the provisions of this contract, with such diligence as will ensure its completion within the time specified in this contract, the State may notify the Contractor in writing of the non-performance, and if not promptly corrected, such officer may terminate the Contractor's right to proceed with the contract or such part of the contract as to which there has been delay or a failure to properly perform. The Contractor shall continue performance of the contract to the extent it is not terminated and shall be liable for excess costs incurred in procuring similar goods or services elsewhere.

b. **Contractor's Duties.** Notwithstanding termination of the contract and subject to any directions from the State, the Contractor shall take timely reasonable, and necessary action to protect and preserve property in the possession of the Contractor in which the State has an interest.

c. **Compensation.** Payment for completed supplies delivered and accepted by the State shall be at the contract price. The State may withhold amounts due to the Contractor as the State deems to be necessary to protect the State against loss because of outstanding liens or claims of former lien holders and to reimburse the State for the excess costs incurred in procuring similar goods and services.

d. **Excuse for Nonperformance or Delayed Performance.** The Contractor shall not be in default by reason of any failure in performance of this contract in accordance with its terms if such failure arises out of acts of God; acts of the public enemy; acts of the State and any governmental entity in its sovereign or contractual capacity; fires; floods; epidemics; quarantine restrictions; strikes or other labor disputes; freight embargoes; or unusually severe weather. Upon request of the Contractor, the State shall ascertain the facts and extent of such failure, and, if such officer determines that any failure to perform was occasioned by any one or more of the excusable causes, and that, but for the excusable cause, the Contractors progress and performance would have met the terms of the contract, the delivery schedule shall be revised accordingly, subject to the rights of the purchasing agency.

e. **Erroneous Termination for Default.** If after notice of termination of the Contractors right to proceed under the provisions of this clause, it is determined for any reason that the Contractor was not in default under the provisions of this clause, or that the delay was excusable, the rights and obligations of the parties shall be the same as if the notice of termination had been issued pursuant to the termination for convenience clause.

16. **INSURANCE.**

a. The [Contractor] shall obtain, and maintain at all times during the term of this agreement insurance in the following kinds and amounts:

(i) Standard Worker's Compensation and Employer Liability as required by State statute, including occupational disease, covering all employees on or off the work site, acting within the course and scope of their employment,

(ii) General, Personal Injury, and Automobile Liability (including bodily injury, personal injury, and property damage) minimum coverages;

(1) Combined single limit of \$600,000 written on an occurrence basis.

(2) Any aggregate limit will not be less than \$1,000,000.

(3) Combined single limit of \$600,000 for policies written on a claims-made basis. The policy shall include an endorsement, certificate, or other evidence that coverage extends three years beyond the performance period of the contract.

(4) If any aggregate limits are reduced below \$600,000 because of claims made or paid during the required policy period, the Contractor shall immediately obtain additional insurance to restore the full aggregate limit and furnish a certificate or other document showing compliance with this provision.

b. The State of Colorado shall be named as additional insured on each liability policy.

c. The insurance shall include provisions preventing cancellation without 60 days prior notice by certified mail to the State.

d. The [vendor][Contractor] shall provide certificates showing adequate insurance coverage to the State within 7 working days of award or contract execution, unless otherwise provided.

17. INDEPENDENT CONTRACTOR RELATIONSHIP. THE CONTRACTOR SHALL PERFORM ITS DUTIES HEREUNDER AS AN INDEPENDENT CONTRACTOR AND NOT AS AN EMPLOYEE. NEITHER CONTRACTOR NOR ANY AGENT OR EMPLOYEE OF CONTRACTOR SHALL BE OR SHALL BE DEEMED TO BE AN AGENT OR EMPLOYEE OF CUSTOMER. CONTRACTOR SHALL PAY WHEN DUE ALL REQUIRED EMPLOYMENT TAXES AND INCOME TAXES AND LOCAL HEAD TAX ON ANY MONIES PAID PURSUANT TO THE CONTRACT. CONTRACTOR ACKNOWLEDGES THAT CONTRACTOR AND ITS EMPLOYEES ARE NOT ENTITLED TO UNEMPLOYMENT INSURANCE BENEFITS UNLESS CONTRACTOR OR A THIRD PARTY PROVIDES SUCH COVERAGE AND THAT CUSTOMER DOES NOT PAY FOR OR OTHERWISE PROVIDE SUCH COVERAGE. CONTRACTORS SHALL HAVE NO AUTHORIZATION, EXPRESS OR IMPLIED, TO BIND THE ORDERING ENTITY TO ANY CONTRACTS, LIABILITY, OR UNDERSTANDING EXCEPT AS EXPRESSLY SET FORTH HEREIN. CONTRACTOR SHALL PROVIDE AND KEEP IN FORCE WORKER'S COMPENSATION (AND SHOW PROOF OF SUCH INSURANCE) AND UNEMPLOYMENT COMPENSATION INSURANCE IN THE AMOUNTS REQUIRED BY LAW, AND SHALL BE SOLELY RESPONSIBLE FOR THE ACTS OF CONTRACTOR ITS EMPLOYEES OR AGENTS.

18. LICENSES, PERMITS AND RESPONSIBILITIES. [CONTRACTOR'S NAME] certifies that, at the time of entering into this Contract, it has currently in effect all necessary licenses, certifications, approvals, insurance, permits, etc. required to properly perform the Services of this Contract. [CONTRACTOR'S NAME] warrants that it will maintain all necessary licenses, certifications, approvals, insurance, permits, etc. required to properly perform this Contract without reimbursement by CUSTOMER or other adjustment in contract price. Additionally, all employees of [CONTRACTOR'S NAME] performing services shall hold the required licenses or certification, if any, to perform their responsibilities. Any revocation, withdrawal or non-renewal of necessary licenses, certifications, approvals, insurance, permits, etc. required for [CONTRACTOR'S NAME] to properly perform this Contract shall be grounds for termination of this Contract for default.

19. ASSIGNMENT AND SUCCESSORS

The contractor agrees not to assign rights or delegate duties under this contract [or subcontract any part of the performance required under the contract] without the express, written consent of the State [which shall not be unreasonably withheld]. Except as herein otherwise provided, this agreement shall inure to the benefit of and be binding upon the parties hereto and their respective successors and assigns. This provision shall not be construed to prohibit assignments of the right to payment to the extent permitted by section 4-9-318, CRS, provided that written notice of assignment adequate to identify the rights assigned is received by the controller for the Department of Personnel executing this contract. Such assignment shall not be deemed valid until receipt by such controller -- as distinguished from the State Controller -- and the contractor assumes the risk that such written notice of assignment is received by the controller for the Department of Personnel.

20. REPRESENTATIVES AND NOTICES.

Representatives and Notice

Representatives. For the purpose of this Contract, the individuals identified below are hereby designated representatives of the respective parties. Either party may from time to time designate in writing new or substitute representatives:

State of Colorado
Attn: MNT Project Director
Name
2452 W. 2nd Avenue, #19
Denver, CO 80223

[Contractor]

Name
Address
City, ST Zip

Authority. With respect to the representative of the State, such individual shall have the authority to inspect and reject services, approve invoices for payment, and act otherwise for the State, except with respect to the execution of formal amendments to or termination of this Contract. .

Notices. All notices required to be given by the parties hereunder shall be hand delivered or given by certified or registered mail to the individuals at the addresses set forth below. Either party may from time to time designate in writing substitute addresses or persons to whom such notices shall be sent.

State of Colorado
Attn: MNT Project Director
Name
2452 W. 2nd Avenue, #19
Denver, CO 80223

[Contractor]
Attn: Specify
Address
City, ST Zip

21. GOVERNMENTAL IMMUNITY. Notwithstanding any other provisions of this Contract, no term or condition of this Contract shall be construed or interpreted as a waiver, express or implied, of any of the immunities, rights, benefits, protection, or other provisions of the Colorado Governmental Immunity Act, section 24-101, et. seq. , C. R. S. , as now or hereafter amended.

22. WAIVER. The waiver of any breach of a term, provision, or requirement of the Contract shall not be construed or deemed as waiver of any subsequent breach of such term, provision or requirement, or of any other term, provision, or requirement.

23. GOVERNING LAW AND VENUE. The laws of the State of Colorado shall be applied in the interpretation, execution, and enforcement of this Contract. The venue for any judicial action relating to performance of this contract shall be in the City and County of Denver.

24. YEAR 2000 WARRANTY.

The contractor warrants that any software, firmware, or supplies delivered, or services performed, this contract to be used before, during, and after the turn of the century (January 1, 2000) are "Year 2000 compliant." "Year 2000 compliant" means fault-free performance in the processing of date and date-related data (including, but not limited to calculating, comparing, and sequencing) by all software products, firmware, and supplies, individually and in combination as a system, when used in accordance with the product documentation provided by the contractor. Fault-free performance means:

- no invalid or incorrect results or abnormal termination prior to, during, and after January 1, 2000 as a result of date or date-related data or data processing that represents or references different centuries or more than one century; and
- proper calculation and handling of leap years; and
- except for normal user interfaces (e.g. four digit date entry) identified in the contractor's or vendor's documentation, such date data processing shall be transparent to the user.

In the event this warranty is breached, the State may elect to (1) return the software or supply and receive a refund of the purchase price (in the case of delivered software or supplies) or (2) require the contractor to make all code revisions or repairs/replacements of firmware or supplies, as well as revisions to associated documentation, at no cost to the State in order to ensure that the software, firmware or supplies are Year 2000 compliant so long as notice of such defect is provided no later than 90 days after discovery. This warranty shall survive acceptance of the software, firmware, or supplies and is not subject to any disclaimer or limitation of warranty or other limitation of the contractor's liability which may be specified in the contract. The remedies specified herein shall not be exclusive remedies and shall not limit any other remedy at law or equity available to the State

25. ENTIRE UNDERSTANDING. This Contract constitutes the entire understanding between CUSTOMER and [CONTRACTOR'S NAME]. No prior or contemporaneous addition, deletion, or other amendment hereto shall have any force or effect whatsoever, unless embodied herein in writing. No subsequent novation, renewal, addition, deletion, or other amendment hereto shall have any force or effect unless embodied in a writing executed and approved pursuant to the State Fiscal Rules.

26. ORDER OF PRECEDENCE. In the event of conflicts or inconsistencies between this Contract and its Exhibits or attachments, such conflicts or inconsistencies shall be resolved by reference to the documents in the following order of priority:

- 1) Colorado Special Provisions, pages _____ to _____.
- 2) Contract, pages _____ to _____.
- 3) The RFP, Exhibit A.
- 4) The Vendor's RFP Response, Exhibit B. The "Project" Schedule, or subsequent changes to the "Project" Schedule, Exhibit C.

27. COLORADO SPECIAL PROVISIONS. The Colorado Special Provisions, required by Fiscal Rule 3-1, 1 CCR 101-1, shall be applicable to any order placed by an agency, department, or institution of the State of Colorado and shall govern in the event of any conflict or inconsistency between the terms of any order and this Contract. With respect to paragraph 1 of the Special Provisions, State Controller or designee approval is not required for State purchase orders issued against this Contract by State purchasing agents.

Exhibit ____

Sample Bilateral Change Order Letter

Date: _____

State Fiscal Year 2000-2001

Bilateral Change Order Letter No. _____

In accordance with Paragraph _____ of contract routing number _____, AMA _____, between **State of Colorado, General Support Services, Telecommunication Services** and Contractor

covering the period of January 15, 2000 through June 30, 2005 the undersigned agree that the supplies/services affected by this change letter are modified as follows:

Services/SuppliesPrice/Cost

The maximum amount payable by the State for _____ [service] [supply] _____ in Paragraph _____ is (increased/decreased) by (\$ amount of change) to a new total of (\$ _____) based on the unit pricing schedule in accordance with the applicable service category submitted in the Contractors RFP Proposal which governs Service to the state. The first sentence in Paragraph _____ is hereby modified accordingly;

OR

The parties agree that the changes made herein are "no cost" changes and shall not be the basis for claims for adjustment to [price] [cost ceiling], delivery schedule, or other terms or conditions of the contract. The parties waive and release each other from any claims or demands for adjustment to the contract, including but not limited to price, cost, and schedule, whether based on costs of changed work or direct or indirect impacts on unchanged work. Controller approval of this "no cost" change is not required. _____ contractor initials. _____ Agency initials.

This change to the contract is intended to be effective as of _____, but, except with respect to "no cost" changes identified above, in no event shall it be deemed valid until it shall have been approved by the State Controller or such assistant as he may designate.

Please sign, date, and return all copies of this letter on or before _____ 19____.

Contractor Name:

State of Colorado:

BILL OWENS, GOVERNOR

By: _____
Name _____
Title _____

By: _____
For the Executive Director
Colorado Department of _____

APPROVALS:

FOR THE STATE CONTROLLER
Arthur L. Barnhart

By: _____
For _____ Division

By: _____
State Controller or Designee

Sample Option Exercise Letter
Exhibit _____

Date: _____

TO: [Contractor]
[Address]

SUBJ: Option Exercise Letter

In accordance with Paragraph _____ of contract routing number _____, FAA ADA _____, between **State of Colorado, General Support Services, Telecommunication Services** and Contractor

covering the period of January 15, 2000 through June 30, 2005 the State hereby exercises the option for Year ____, based on the rates and pricing set forth in the Contract.

As approved in the Contract, if the final approved changes the State's financial obligation hereunder, an amended Open Exercise Letter must be executed. Upon proper execution, the amended Option Exercise Letter shall constitute notice to continue "MNT" system service for the next year. The maximum amount payable by the State for this Phase ____ is \$_____. This Option Exercise Letter shall not be deemed valid until it has been approved by the State Controller or such assistant as he may designate.

State of Colorado:
BILL OWENS, GOVERNOR

For the Executive Director
Colorado Department of Personnel

Title

APPROVALS:

FOR THE STATE CONTROLLER
Arthur L. Barnhart

By: _____
For _____ Division

By: _____
State Controller or Designee

*Indefinite Quantity Contract Funding Letter***Exhibit** _____

Date: _____

TO: [Contractor]

SUBJ: Indefinite Quantity Funding Letter No. _____

In accordance with Paragraph _____ of contract routing number _____, AMA _____, between the **State of Colorado, General Support Services, Telecommunication Services** and

[Contractor]

covering the period of January 15, 2000 through June 30, 2005 the undersigned commits the following funds to the contract:

The amount of funds available and specified in paragraph _____ is (increased/decreased) by (\$ amount of change) to a new total funds available of (\$ _____) to satisfy orders under the contract. Paragraph _____ is hereby modified accordingly.

This funding letter does not constitute an order for services under this contract.

This funding letter is effective upon approval by the State Controller or such assistant as he may designate.

State of Colorado:

BILL OWENS, GOVERNOR

By: _____
For the Executive Director
Department of _____

APPROVALS:

FOR THE STATE CONTROLLER
Arthur L. Barnhart

By: _____
For _____ Division

By: _____
State Controller or Designee

Exhibit ____
Deliverable Implementation Schedule

To be detailed:

Exhibit ____
State Furnished Equipment

Location

Equipment Description

Section 3 - Statement of Work

3.0 Overview

The State desires to establish a single backbone network “cloud” based on Asynchronous Transfer Mode (ATM) technology to carry voice, video, and data traffic in a fully interoperable environment. This backbone cloud will be monitored and managed by the Offeror on a 24 hour, seven day a week, 365 days a year (24 x 7 x 365), basis. The Multi-Use Network will consist of 70 points of service around the state called *Aggregated Network Access Points* or ANAPs. The State reserves the right to negotiate additional site implementations during the course of the awarded contract. An ANAP is not necessarily a physical presence or installation, but rather will be defined as a minimum of 20 Mb of access capability for State network users in an area. High-speed network access, preferably over fiber, will be delivered to these locations by the provider and distributed to users over appropriate links. Asynchronous Transfer Mode (ATM) is the desired transport method. In addition to those sites defined as ANAPs requiring 20 Mb of service, four other sites have been designated as Super ANAPs or SANAPs which require at least 155Mb service due to concentrations of traffic primarily in the metro area. Offerors must specify how their existing service structure and planned improvements will meet the telecommunications requirements of the Multi-Use Network. This RFP seeks a strategic partner who will assume responsibility as a Prime Contractor, from now on referred to as “Offeror”, to create a mutually beneficial public/private partnership with the State as “anchor tenant” for increased telecommunications performance and the extension of advanced technologies throughout Colorado.

The State will insist on a 36 month implementation schedule in which Multi-Use Network services are completed and available in 30% of sites in year one (minimum of 21); 50% of sites in year two (an additional 35 sites for a total of 56); and 20% of sites in year three (the remaining 14 sites). The State intends to contract for these services for a period of five years with five one year renewable option years for a potential total of ten years for the services. As an ANAP is established, the current state telecommunications lines in that area will be transferred, whenever possible, to access the newly established “cloud”. The State also anticipates locating edge switches at points of high user demand. These edge switches will be included in the responsibilities of management and monitoring.

A companion piece to the MNT Strategic Plan relates to *Community Incentive Funding* or *community based access grants*, a means to fund and facilitate the participation of community level stakeholder aggregation (that is, other than State agency offices) to extend MNT-recommended infrastructure upgrades to every Colorado community. A bill informally known as the “Beanpole Bill” (HB 99-1102) was passed in the 1999 legislative session to establish a grant program for local communities. Enabled with “Beanpole” funding, each community can aggregate its multiple sources of telecommunications demand from education, government, library, health care, and other

public or non-profit sectors. This community-level aggregated demand is intended to provide the "anchor tenant" to resolve "last mile" problems even in communities without significant State government telecommunications requirements. Local ANAPs (aggregations of non-State user requirements) will be formed within the self-defined community to aggregate telecommunications services. The concept is to achieve a critical mass of demand and facilitate extension of the capabilities of the Multi-Use Network. First year funding defined in the "Beanpole" bill is \$4.676 million, with additional funding dependent on demonstrated success of the program. The Executive Director of the Department of Personnel/General Support Services is required within available resources to connect any "Beanpole" community to the Multi-Use Network so the Offeror can anticipate additional traffic from the ANAPs with the growth of that traffic dependent upon the rate of distribution and completion of community based access grants. Offerors will be required to coordinate their Multi-Use Network efforts with the activities of the "Beanpole" project communities. A copy of HB 99-1102 along with other descriptive and contact information on the "Beanpole" project can be found in Attachment 5.1 of this RFP.

At the end of this project the State will have aggregated its current demands and combined its existing networks into a single ATM "cloud" network extending its capabilities to every community throughout the State of Colorado.

3.1 Proposal Instructions

Unnecessarily elaborate proposals are not encouraged. The proposal must be in no less than 12 point type, with one inch margins. Where page limits are specified, the State reserves the right to not consider any pages that exceed the page limit.

Proposals should be organized as follows:

Executive Summary (4 pages max)

The proposal response must follow the stated requirements and requests for response to questions in the following categories:

Offeror Qualifications / Experience
Technical Requirements
Management and Monitoring
Project Management
Cost

Attachments

Brevity and clarity is expected in each category. Offerors are strongly encouraged not to include any marketing material as filler or in place of more specific narrative responses.

3.2 Offeror Qualifications / Experience

3.2.1 Qualifications

This section defines the minimum acceptable qualifications that must be met for an Offeror to respond to this RFP. The State of Colorado recognizes that the scope and complexity of the Multi-Use Network infrastructure and services may require an Offeror to propose that it shall act as the **Prime Contractor**, with a number of other service providers acting as **Sub-Contractors** to the Prime Contractor. However, the qualifications set forth here shall pertain to the individual Prime Contractor for the Offeror's team of service providers. . As part of its evaluation process, the State will be assessing the Offeror's understanding of local issues and environment. Consequently, the State assessment will view the use of local partnerships and subcontractors, for example, as a means of demonstrating local understanding.

Note: Notwithstanding the use of approved subcontractors, the Offeror, if awarded a contract under this RFP, shall be the **Prime Contractor** and shall be responsible for all work performed. **Right to Refuse Sub-Contractors** - The State reserves the right to refuse, for cause, any proposed subcontractors.

The Offeror / prime contractor is required to show that it is a financially stable organization capable to assume the capital investment required to build, operate, and maintain a statewide network infrastructure. For the purposes of this RFP, the State of Colorado DOP requires:

3.2.1.1 Requirement: The Offeror / Prime Contractor shall provide a brief narrative description of their qualifications to deliver the services sought in this RFP. This narrative shall cover at the following topics:

3.2.1.1.1 Requirement: Experience or participation in planning, designing, implementing, and operating a network infrastructure of similar scope to the one sought in this RFP.

3.2.1.1.2 Requirement: Experience with wide area network migration and implementation for Projects of similar size to the Multi-Use Network where aggregation of a diverse network infrastructure into a new, state-of-the-art wide area infrastructure was required.

3.2.1.1.3 Requirement: The Offeror's or proposed sub-contractor's previous experience staffing and operating a 24x7x365 Network Operations Center (NOC).

3.2.1.1.4 Requirement: The Offeror's or proposed sub-contractor's previous experience providing outsourced network management services for a wide area network similar in size and scope to what is sought in this RFP in the following

areas of Open Systems Initiative (OSI) Network Management: Fault Management; performance management; configuration management; capacity management; and account management.

3.2.1.2 Requirement: The Offeror shall provide a description of their background and organizational history, including:

3.2.1.2.1 Years in business;

3.2.1.2.2 Location of offices; and,

3.2.1.2.3 Form of business (corporation, partnership, joint venture, LLC, etc.)

3.2.1.2.4 A description of the offering organization's size, longevity, and client base. Note: The State is not setting any requirement as to the size of the Prime Contractor.

3.2.1.3 Upon Notice of Intent to Award, the Prime Contractor shall supply documentation of financial responsibility, financial stability, and sufficient financial resources to provide the services sought in this RFP, within the required time frames. This response must include:

3.2.1.3.1 Other financial information by which the State may reasonably formulate an opinion about the relative stability and financial strength of the Prime Contractor. This information shall include the most recent audited financial statement or a banking reference and a credit rating by a rating service.

3.2.2 Experience

Requirement: Proposals shall provide the following information to support the Offeror's experience in delivering services such as those sought under this RFP:

3.2.2.1 A brief description of how long the Offeror has been performing the services sought under this RFP.

3.2.2.2 Two lists of key personnel, one for key staff whose responsibilities will be primarily implementation (Project Management) and a second for key management and maintenance staff whose responsibilities will be ongoing for the duration of the contract. These lists shall include definitions of the level of responsibility and involvement for each person, and brief descriptions which should detail each individual's title, education, and employment history. These lists shall also identify key subcontractor personnel. Note: Right to Refuse Personnel - The State reserves the right to refuse, for cause, any subcontractors or any personnel provided by the prime contractor or its subcontractors.

3.3 Technical Requirements

3.3.1 Scope of Service

The scope of the Multi-Use Network (MNT) Project includes the following:

Design, construction, implementation and delivery of a flexible, scalable and high-speed statewide network infrastructure based on the following as found and specified in the following sections:

Section 3.3.2.1

A single backbone network “cloud,” based on Asynchronous Transfer Mode (ATM), for voice, video and data, that can provide a wide variety of advanced services in a fully interoperable environment.

Extension of the “cloud” to provide connectivity from the backbone network to all 64 counties in the State of Colorado through Aggregated Network Access Points (ANAPs).

Support for introduction of new and emerging technologies into the “cloud” as they are developed.

Section 3.3.2.2

20Mbps or greater to State Edge Sites from the MNT wide area network infrastructure and ANAP points of service.

155.5 Mbps or greater to all SANAPs .

Advanced service offerings.

Anticipated growth plan for connectivity to the public/private sectors.

Technical Specifications for ATM and other service offerings.

Section 3.3.2.3

Traffic Management for ATM with Quality of Service parameters.

Section 3.3.2.4

ANAP/SANAP Implementation.

Section 3.3.2.5

Connectivity to State agency End Sites.

Section 3.3.2.6

Network Monitoring and Management for MNT backbone, ANAPs, SANAPs, Edge Sites and End Site locations.

24x7x365 NOC operations.

Service Level Agreements.

Section 3.3.2.7

Project Management.

Description of Network Physical Layout Requirements

The network physical layout is the physical network's topology and overall architecture that is to be deployed throughout the State of Colorado. Designing and implementing a statewide network infrastructure will require a hierarchical network architecture and a geographically dispersed physical presence to all counties and service access points desired by the State agency End Sites. The new MNT wide area network infrastructure will be based on the following building blocks:

WAN Links – The point-to-point, partially-meshed, fully meshed, and/or ring configuration, wide area network links used by the Offeror to interconnect ANAPs to ANAPs and Edge Sites and End Sites to ANAP points of aggregation and service.

ANAPs – (Aggregated Network Access Points) The network backbone points of aggregation and service within the wide area network for network connections from local Edge Sites and End Sites within close proximity to that location. Each ANAP will be based on ATM technology and have the capability of handling data, video and voice services. An ANAP should be owned by the Offeror but, if necessary, the State could provide assistance with a site and switching capabilities.

SANAPs – (Super Aggregated Network Access Points) State owned sites of extremely high concentration of users and demand for integration of services. Sites designated for a State owned, and Offeror monitored and managed, ATM switch. These sites are determined critical in nature and will require SONET protection switching and diverse WAN Link paths. The following are State designated SANAPs according to location and WAN Link bandwidth requirements:

690 Kipling, Lakewood, CO - OC-3 (155.5 Mbps) with migration to OC-12 (622.08 Mbps)
1525 Sherman, Denver, CO – OC-3 (155.5 Mbps)
4201 Arkansas, Denver CO – OC-3 (155.5 Mbps)
University of Colorado at Denver (UCD), Denver, CO – OC-3 (155.5 Mbps)

Edge Sites – State owned sites, other than SANAPs, with a high concentration of users and demand for integration of services. Sites designated for a State owned, and Offeror monitored and managed, ATM switch with WAN Link bandwidth requirements of DS-3 (44.736 Mbps) or higher.

End Sites – The locations at which the State agencies, Higher Education, and other public entities will originate connections to the MNT Offeror's ANAP and core backbone network.

Design factors the Offeror shall consider in its response include but are not limited to:

- Universal “cloud” service offering that can deliver a broad scope of ATM products and services at a cost-effective rate. This would be enabled by the build out of the new MNT wide area network infrastructure, with the State of Colorado acting as “anchor tenant.”
- Hi-speed communication MNT WAN links, switching, and transport systems based on industry accepted standards from the ATM Forum, IETF, ITU, IEEE, Bellcore and ANSI.
- Quantity and anticipated growth of MNT users and network systems for a given physical location, city or town
- Analysis of aggregating network traffic at specific ANAP locations for the MNT wide area network infrastructure based on population, network traffic, SANAP, Edge Site and End Site demand
- Flexible and scalable network bandwidth and network connectivity to MNT State SANAPs, Edge Sites and End Sites throughout the state that minimizes inter-LATA crossing charges and charges associated with mileage
- Fully integrated, all-inclusive network services priced per Mb of traffic carried
- Capital investment costs to build a new network or upgrade an existing one, and network equipment and systems already in place throughout the state that can support the flexible and scalable network connectivity requirements of the MNT backbone
- Analysis of combining local loop and intra-LATA circuits to inter-LATA and wide area network circuits. This will enable partnering between LECs and IXC carriers to provide an end-to-end solution in support of MNT network connectivity requirements
- End Site connectivity for state agencies and other public entities to the MNT wide area network “cloud” through ANAPs with advanced service offerings
- State outsourcing of MNT network management services for any State owned ANAPs, SANAPs, Edge Sites and user specified End Sites
- Network management services on a per managed unit basis
- Inclusion of management services and systems of State owned ANAPs SANAPs and Edge Sites as part of the overall network price
- Rollover of new and existing state circuits.
- Provision for the majority of current state traffic ultimately terminating in Denver SANAPs

3.3.2 Technical Responses

This section presents the technical questions and technical responses desired by the RFP evaluation team as part of the Offeror's overall Multi-Use Network RFP response. This is provided as detail of the Statement of Work. The response format and scoring are in Section IV of this RFP, Proposal Format and Evaluation.

The following modules contain the State's description and requirements of the MNT statewide network MNT backbone infrastructure and service offerings. Requirements include specifications for Offeror response.

A specification is any description of the physical or functional characteristics or nature of the supply or service. Specifications are drafted with the objective of clearly describing the State's requirements. A requirement is a statement of the specific need(s) of the State. All requirements will be evaluated and are identified in Sections III and IV by **Bold** letters and preceded by the word "requirement." Certain requirements are mandatory and must be met for award. These mandatory requirements are identified in Sections III and IV by the notation "(M)."

3.3.2.1 MNT Backbone Infrastructure

The State requires a highly flexible, scalable and reliable backbone infrastructure, based on ATM technology, to transport its data, voice and video traffic. This backbone infrastructure will provide the basis for the creation of a network "cloud" incorporating Offeror-owned ANAPs (and State owned ANAPs if required by Offeror) with connectivity to State-owned and switched SANAPs, Edge Sites and state agency End Sites. The "cloud" architecture will require any SANAP, Edge Site and End Site to ultimately have only a single connection to reach any of potentially multiple destinations throughout the state. The "cloud" should eliminate backhaul and InterLATA charges and be capable of providing uniform and interactive transport and connectivity to all counties and specified locations throughout the State of Colorado.

SONET is the preferred backbone mechanism to provide redundant and diverse path capabilities for network survivability. Asynchronous Transfer Mode (ATM) is the required primary transport protocol, with Frame Relay services made available to state agency End Sites. ATM/Frame Relay integration is required. Other advanced services such as transport of Internet Protocol (IP), ISDN, Digital Subscriber Line (xDSL), video (H.320, H.323, MPEG 2), voice (PBX connectivity, trunking, etc.) are requested to all counties and End Sites, with integration over ATM to Edge Sites, as part of the MNT. A 20 Mbps or greater is required to each of the 64 counties in the State and a possible excess of 2.4Gbps (OC-48) to some. (See Attachment 5.4)

The overall design of the physical and switched backbone network will be left up to the Offeror of this RFP, based on, but not limited to, the design criteria and needs listed in

this document. The State, however, requires knowledge of the technical approach used by the respondent to deliver any of the above services.

The actual quantity and location of ANAPs that are physically designed into the MNT network backbone infrastructure will be left to the Offeror's discretion as long as the goal of providing a cost effective, scalable, integrated, and hi-speed network "cloud", which eliminates backhaul and LATA boundary barriers to the end user community, is achieved. There is one exception: At least five statewide ANAPs are required to enable a redundant and diverse network

3.3.2.1.1 Requirement: The Offeror shall provide a detailed description of the technical approach that will be used to deliver a single MNT "cloud" based on ATM technology to all counties in the state.

3.3.2.1.2 Requirement: The Offeror shall provide a high-level diagram indicating any redundant and diverse paths used for MNT backbone survivability. Show all ANAP locations provided by the Offeror and any State owned facilities where co-location is deemed required. Provide bandwidth provisioning between all ANAPs. Indicate and list locations served by, and names of, all companies and partnerships involved in the backbone delivery of services. As noted above, the State believes that at least five statewide ANAPs are required to enable a redundant and diverse network.

3.3.2.1.3 Requirement: The Offeror shall address how the proposed technical approach will minimize punitive costs due to such factors as distance and LATA boundaries.

3.3.2.1.4 Requirement: A capacity planning process is critical throughout the life cycle of the backbone network. The Offeror shall describe their technique for such a process and their ability to adapt to State business needs in order to maintain future growth.

3.3.2.2 ANAP and SANAP Connectivity and Bandwidth Requirements and Service Offerings

ANAPs are Offeror-owned sites used to aggregate data, voice and video traffic onto the MNT wide area network backbone infrastructure. They will be initially configured to handle 20Mbps or greater of ATM service from the Offeror to State Edge Sites and State agency End Sites. Actual ANAP locations will be proposed by the Offeror and negotiated upon award of the MNT contract.

"Super" ANAPs, or SANAPs, are designated as critical, State owned sites, identified for large capacity backbone connections and aggregation, 155.5 Mbps (OC-3) to 622.08 Mbps (OC-12) and requiring ATM service over SONET transport with diverse paths for network survivability. These SANAP sites were identified as high traffic sites through

several analysis criteria such as: preparation for Internet II presence, high potential usage for video applications using network protocols, mainframe and server access and other switching and routing needs. A list of SANAP locations with their bandwidth requirements can be found in Attachment 5.4.

ANAP connectivity and implementation must be incorporated into the backbone network and extend the universal “cloud” to all counties in the State of Colorado and provide connectivity and access for State Edge Sites and State agency End Sites. Backbone and ANAP design and implementation should take into account anticipated growth needs and the potential participation of the private sector. Each ANAP must be scalable to permit the potential investment and participation of other public/non-profit users. State Statute requires State ANAPs to provide connectivity to “Local ANAPs” carrying additional users that will be created through the “Beanpole” Bill (Refer to Attachment 5.1 for drawing and Bill).

State government has a presence in virtually every community in the state. Initially, the majority of telecommunication traffic from these communities will be destined for Denver. As the “Beanpole Bill” is implemented, bringing schools and libraries into the “cloud”, demand for incremental bandwidth for such things as distance learning and interactive multi-media applications across the state will become common.

The Offeror shall respond to the following ATM Service Offerings and Technical Specifications to be made available from all ANAP locations:

3.3.2.2.1 Requirement: The Offeror's response to the RFP shall describe how they will address ANAP and SANAP extensions into the “cloud” and their connectivity and bandwidth requirements. Other related issues, such as collocation of facilities and ANAP equipment specifications and capabilities, as well as interconnection to the backbone, shall also be addressed.

3.3.2.2.2 Requirement: The MNT high-speed communication links to the ANAPs, SANAPs, Edge Sites and State agency End Sites must be based on industry accepted standards and specifications from the ATM Forum, IETF, ITU, IEEE, Bellcore and ANSI. (M)

3.3.2.2.3 Requirement: The MNT network “cloud” must be based on ATM technology. (M)

3.3.2.2.4 Requirement: Emerging Standards: In some cases this specification refers to standards which are not yet formally adopted or published. These specifications intentionally look to the future and attempts to codify an operational capability deemed necessary by the State based on expected evolution of standards, not merely based upon what is adopted today. It is recognized that standards are the basis for enabling the Offeror and their equipment manufacturers to develop, produce and market products which meet the specified requirements and which are interoperable with other like-function products. This makes them extremely important to State network functionality.

Where unpublished standards are used in this specification, a “grace period” of 12 months from adoption is given wherein the Offeror and their chosen manufacturers will be automatically exempted from compliance. In some cases, when specific company acquisitions occur, the State will consider manufacturer’s products which are non-compliant with either already existing standards or with specific requirements defined in this specification. Policy, guidelines and process for case-by-case consideration of waiver in these situations are described in Attachment 5.6. (Also refer to Scope of Work contract provision 1.4.2.)

3.3.2.2.5 Requirement: ATM switching capabilities must support all current standards, features and options on which these requirements are based. (M)

3.3.2.2.6 Requirement: All future ATM Forum standards, features and options on which these requirements are based shall be supported within 12 months of ratification by the ATM Forum.

3.3.2.2.7 Requirement: The Offeror shall specify what the minimum parameters for voice communications, video communications and high-priority, interactive data and video communications shall be for the following:

- Throughput
- Delay
- Jitter
- Packet Loss/Dropped Packets
- Cell Loss Ratio

3.3.2.2.8 Requirement: Accurate timing, traceable to a Stratum I source, must be available at the Offeror’s interface to all State ANAP, SANAP and Edge Site locations. (M)

3.3.2.2.9 Requirement: The Offeror must be able to provide incremental and variable bandwidth allocations on a per Mb basis and include a description of bandwidth offerings. (M)

3.3.2.2.10 Requirement: The Offeror must comply to all ATM service offerings with at least the ATM Forum User-Network Interface (UNI) Signaling Specification, Version 3.1 with plans to upgrade to UNI 4.0 and include a schedule for such an upgrade, (M)

3.3.2.2.11 Requirement: The MNT network “cloud” must support logical network connections and paths in the form of Permanent Virtual Circuits (PVCs). (M)

3.3.2.2.12 Requirement: The MNT network “cloud” shall support logical network connections and paths in the form Switched Virtual Circuits (SVCs). Offeror shall describe its ability and willingness to do this. According to UNI 4.0 specifications, describe the addressing structure to be used in support of SVC point-point calls.

Show how address translations between State Customer Premise Equipment (CPE) and the public network ATM “cloud” will be handled.

3.3.2.2.13 Requirement: Offeror shall describe parameters on which SVC billing will be based and any billing issues that may be unresolved.

3.3.2.2.14 Requirement: The MNT network “cloud” must provide and support Circuit Emulation (CE) necessary for time sensitive applications such as voice, video and Time Division Multiplexing (TDM). (M)

3.3.2.2.15 Requirement: ATM to Frame Relay Interworking must be provided for DS-0 and DS-1 rates throughout the entire “cloud”. If Frame Relay service is not provided by the Offeror, co-location of the providing vendor’s terminations must be accommodated. (M)

Note: Because of the extensive nature of the current State Frame Relay network, this requirement is mandatory within Phase I of implementation.

3.3.2.2.16 Requirement: The MNT network “cloud” shall support logical point-to-Multipoint connections in the form of PVCs.

3.3.2.2.17 Requirement: The MNT network “cloud” shall support logical point-to-Multipoint connections in the form of SVCs.

3.3.2.2.18 Requirement: The MNT network “cloud” shall support Inverse Multiplexing over ATM (IMA).

3.3.2.2.19 Requirement: The Offeror shall implement Multi-Protocol Switching (MPLS), upon expected completion of standards. This will allow transport of IP over ATM with the Quality of Service (QOS) required by State applications, reducing latency and increasing throughput.

Offeror response shall include an anticipated schedule for such an implementation.

3.3.2.2.20 Requirement: The Offeror shall implement PNNI 1.0 with upgrade to PNNI 2.0 upon completion of standards.

3.3.2.2.21 Requirement: For those offering dial tone capabilities from their facilities, an integration of narrowband voice and ATM (i.e. Circuit Emulation, AAL2, etc.) must be available at ANAP locations to SANAPs, and Edge Sites from the ATM “cloud”. (M)

Offeror shall describe their ability to do this, what method or methods of integration they would use, and, what Phase of implementation the offerings would be available. (Reminder: All services must conform to published standards.)

3.3.2.2.22 Requirement: The Offeror shall provide full integration between voice (SS7 signaling) and ATM when available.

Offeror shall describe their ability to do this, what method or methods of integration they would use, and, what Phase of implementation the offerings would be available.

3.3.2.2.23 Requirement: Offeror shall specify other or alternative service offerings or methods that are being considered for the MNT wide area network but are not necessarily ready through approved specifications and production implementation. Also provide an anticipated service release date if not currently ready.

3.3.2.2.24 Requirement: The Offerors (Prime and Sub-Contractors) shall provide a geographic map of ANAP locations with clear detail of all service areas they each support (i.e. counties, cities, towns, etc.). Include bandwidth capabilities and all services, advanced and otherwise, that can be provided from each ANAP to their supported locations. Describe any requirements by the Offeror for State assistance for ANAP locations. (M)

3.3.2.2.25 Requirement: The Offeror shall list all switch and equipment manufacturers used in the backbone network at ANAP locations. Describe all communications equipment capabilities and their adherence to existing standards. Describe any proven interoperability tests with other manufacturer's edge switches and devices.

3.3.2.2.26 Requirement: The "Beanpole Bill" will result in additional opportunities for the establishment of "Local ANAPs" within the communities they service. The Offeror shall address their ability to accommodate additional infrastructure within these communities to the MNT backbone. The Offeror shall also describe any co-location issues that may result and their ability to accommodate them.

3.3.2.2.27 Requirement: All MNT ANAP offerings must be Year-2000 compliant. (M)

3.3.2.3 Traffic Management and Quality of Service (QOS) Parameters

ATM technology, the core transport mechanism requested for the MNT, is intended to support a wide variety of services and applications. The control of ATM network traffic is fundamentally related to the ability of the network to provide appropriately differentiated Quality of Service (QOS) for network applications through an appropriate traffic contract and service categories. Each service category defines traffic contract parameters and QOS parameters. This is necessary for support of applications requiring different delay and loss performance such as Voice, Packet data (IP, FR), Video, Imaging and Circuit Emulation.

A primary role of traffic management is to protect the network and end-system from congestion in order to achieve network performance objectives. An additional role is to

promote the efficient use of network resources. Traffic shaping will be used to ensure that cell streams generated by an ATM device for a particular connection will conform to the contract to prevent discard of violating cells. Traffic policing must also be used to determine conformance of an arriving cell stream to the contracted traffic parameters.

The architecture for ATM virtual connections required by the State at the ATM layer consists of the following five service categories according to the ATM Forum Traffic Management, Version 4.0, Specification. All service categories will apply to PVC and SVC, VCCs and VPCs. All technical requirements will be based on approved standards and specifications according to the ATM Forum, IETF, ITU, IEEE, Bellcore and ANSI.

The required service categories that must be provided are:

3.3.2.3.1 Requirement: Constant Bit Rate (CBR) – Supports real-time applications requiring a fixed amount of bandwidth. Supports tightly constrained Cell Transfer Delay (CTD) and Cell Delay Variation (CDV) for applications that cannot tolerate variations in delay such as voice, constant-bit-rate video, and Circuit Emulation Services (CES). (M)

3.3.2.3.2 Requirement: Real time Variable Bit Rate (rt-VBR) – Supports time-sensitive applications which also require constrained delay and delay variation requirements but transmit at a varying rate. Such bursty, delay-variation-sensitive sources are voice and variable-bit-rate video. (M)

3.3.2.3.3 Requirement: Non-real time Variable Bit Rate (nrt-VBR) – Supports applications that have no constraints on delay and delay variation, but which still have variable-rate, bursty traffic characteristics. Such applications include packet data transfers, terminal sessions, and file transfers. (M)

3.3.2.3.4 Requirement: Unspecified Bit Rate (UBR) – This service category is a “best effort” service, which does not require tightly constrained delay and delay variation and provides no specific quality of service or guaranteed throughput. Most LANs and IP implementations provide a “best effort” service today. (M)

3.3.2.3.5 Requirement: Available Bit Rate (ABR) – The aim of this service is to provide access to bandwidth currently not in use by other service categories to users who can adjust their transmission rate. In exchange for this cooperation by the user, the network provides a service with very low loss. ABR service does not provide bounded delay variation. Good candidates for ABR are LAN interconnection, high performance file transfers, database archival, non-time-sensitive traffic and web browsing.

3.3.2.3.6 Other Considerations:

3.3.2.3.6.1 Cell Delay Variation (CDV) -- CDV is essential for Constant Bit Rate (CBR) connection performance. Its value is necessary for the dimensioning of the elastic buffer required at the terminating end of the connection for absorbing the accumulated CDV, regardless of whether the network is public or private.

According to the ATM Forum's Traffic Management Specification Version 4.0, B.2.2.5, a common, maximum cell delay variation value for private, public and hybrid private/public networks is essential. As an implementation guideline, the receiver CDVT should be designed to handle the case where a connection traverses three networks, each having three switches in tandem.

3.3.2.3.6.2 Requirement: Respond as to how you will handle this recommendation in order to guarantee Constant Bit Rate connection performance. Please describe how much CDVT the public network will tolerate before it throws cells away for all service categories, classes of service and bandwidth allocations.

3.3.2.4 ANAP / SANAP Implementation

The installation of the required capabilities for all 70 ANAP/ SANAP locations will be over a 3-year phased implementation schedule. A table is provided (in Section IV) for those responding to the RFP to identify which of the 70 ANAP SANAP sites they propose to provide completed services to during each phase of the MNT implementation. Higher potential scores will be placed on those locations deemed *rural* through population studies. Less weight will be given to suburban areas and even less to urban areas with higher population levels. The weighting method is also designed to reward completion of rural sites in years one and two of implementation with higher scores than can be earned by suburban or urban site completions.

The following is a schedule of requirements within each phase:

3.3.2.4.1 Phase I - January, 2000 to December, 2000

Completed installation of the required telecommunications capabilities to the State of Colorado's ANAP and SANAP locations, a minimum of 21 access points (30%), as listed by the Offeror for Phase I, is required. Before each site is deemed completed, testing will be performed by the vendor with verification and testing by the State. **The Offeror shall provide all design, project management, and equipment necessary to meet all requirements listed in Section III of this RFP.**

3.3.2.4.2 Phase II - January 2001 to December, 2001

Completed installation of the required telecommunications capabilities to the State of Colorado's ANAP and SANAP locations, a minimum of 50% of the 70 total, as listed by the Offeror for Phase II, is required. This amounts to a total of 56 access points to be operational by the completion of Phase II. By the end of Phase II, a minimum of 80% of the required ANAP and SANAP sites shall be operational. Before each site is deemed completed, testing will be performed by the vendor with verification and testing by the State. **The Offeror shall provide all design, project management, and equipment necessary to meet all requirements listed in Section III of this RFP.**

3.3.2.4.3 Phase III - January, 2002 to December, 2002

Completed installation of the required telecommunications capabilities to the State of Colorado's ANAP and SANAP locations, the final 20% of the 70 total or remaining sites, as listed by the Offeror for Phase III, is required. This completes the 70 access points. Before each site is deemed completed, testing will be performed by the vendor with verification and testing by the State. **The Offeror shall provide all design, project management, and equipment necessary to meet all requirements listed in Section III of this RFP.**

3.3.2.4.4 ANAP / SANAP IMPLEMENTATION RESPONSE INSTRUCTIONS

Scoring information and response instructions for completion of ANAP / SANAP installations to meet the State of Colorado's Multi-Use Network requirements can be found in section IV of the RFP document. Responses will be entered in a table to indicate which of 70 locations will be completed in each of three one year implementation phases. The evaluation scoring system is designed to reward early completion of ANAP service offerings in rural areas.

3.3.2.4.5 ANAP / SANAP Implementation Detail

3.3.2.4.5.1 Requirement: The Offeror shall provide a detailed, phased implementation plan and schedule of services to be provided to all ANAP locations.

3.3.2.4.5.2 Requirement: The Offeror shall provide a detailed migration strategy for transitioning any existing State circuits, as determined by the Offeror and MNT project team upon implementation, to the MNT backbone infrastructure.

3.3.2.5 Connectivity to Edge Sites and State Agency End Sites

A major goal of the MNT is to provide the capability of connectivity and interoperability between all state agencies through one effective “cloud” of ATM and advanced services. As mentioned in Section I, there currently exist several State networks of limited capabilities trying to achieve this goal. As the MNT network is implemented through the build-out of backbone infrastructure and distributed ANAPs, these legacy networks will be rolled into, and upgraded to the MNT “cloud”. Many of these connections currently ride on the State owned microwave system and many more circuits are leased through existing providers.

The primary purpose of this RFP is to extend communications to the many rural areas that have remained neglected and detached from the rise in technological advances. Even with the extension of advanced communications through the MNT backbone infrastructure and its ANAPs to all county locations it is imperative that such services also reach the End Site user community. The Offeror is encouraged to expand their capabilities and horizons to incorporate even the most remote locations through innovative devices and means.

3.3.2.5.1 Requirement: The Offeror shall describe their ability to provide connectivity to State Edge Sites listed in Attachment 5.4.

3.3.2.5.2 Requirement: The Offeror shall describe any local physical infrastructure and loop qualifications that could provide connectivity to State Agency End Sites. State whether they are owned by the Offeror or the Offeror has acquired access to them through formed partnerships with local holding entities. List such partnerships, if any.

3.3.2.5.3 Requirement: The Offeror shall describe any additional or innovative methods of extended delivery of MNT infrastructure and services that will be available from Offeror. Detail any problem areas and possible solutions.

3.3.2.5.4 Requirement: The State requires that the following services be made available to all End Sites terminating within the MNT network “cloud”:

- **Requirement:** DS0, 56kbps/64kbps WAN Links must be provided to End Sites terminating within the MNT “cloud”. (M)
- **Requirement:** DS-1, 1.544Mbps WAN Links must be provided to MNT End Sites terminating within the MNT “cloud”. (M)
- **Requirement:** DS-3 ATM service shall be made available to End Sites terminating within the MNT “cloud”.
- **Requirement:** Inverse Multiplexing over ATM (IMA) shall be made available to MNT End Sites terminating within the MNT “cloud”.
- The State desires that ISDN service be made available to End Sites terminating within the MNT “cloud”.
- The State desires that Digital Subscriber Line (xDSL) be made available to End Sites terminating within the MNT “cloud”
- The State desires dial tone be provided to End Sites terminating within the MNT “cloud”.
- The State desires VPN service offerings.

3.3.2.5.4.1 Requirement: The Offeror shall categorize all potential End Site locations according to scheduled availability and types of service offerings.

3.3.2.5.4.2 Requirement: The Offeror shall specify other or alternative service offerings or methods that are being considered for the MNT wide area network.

3.4 Management and Monitoring

The following section contains requirements that are intended to define the general monitoring and management needs of the State of Colorado for the Multi-Use Network implementation and on-going operations. This section is intended as a guideline for the Offeror and is not all-inclusive. The State is open to consideration of any additional management offerings that can be provided by the Offeror. This section includes both Technical and Business areas as follows:

3.4.1 Technical Monitoring and Management

The State of Colorado will retain ownership of all Edge ATM switches and devices terminating on the MNT backbone. Outsourced monitoring and management of this State owned equipment, and all MNT leased lines shall include the operations and capabilities in the following categories:

- Fault Management
- Configuration Management
- Accounting Management
- Performance Management
- Security Management

3.4.1.1 Requirement: The Offeror shall indicate their ability to provide this service.

3.4.1.2 Requirement: The Offeror shall support, at a minimum, the following Network Management standards:

- Simple Network Management Protocol (SNMP)
- MIBs to support specifications throughout this RFP.

The technical Monitoring and Management offering will be concerned with the installation, operation, monitoring, and upgrading of a physical infrastructure which can maximize quality, capacity, and reliability of service for State users.

3.4.1.3 Requirement: In addition to MNT Edge Sites, circuits, and devices, the Offeror shall provide a catalog of Monitoring and Management services that could be subscribed to by other state agencies for such End Site services.

3.4.1.4 Requirement: The Offeror shall provide all network management tools to track the network performance, monitor network status, report and track network trouble and generate management reports through their Network Operations Center (NOC). The proposed network management tools should include such features as traffic analysis, call detail recording, and reporting. Regular and web-based real-time monitoring and reporting requirements--aggregate and client/site specific--will need to be defined, established, and supported.

The primary contact for all trouble reporting, status and updates will be the Colorado Information and Technology Services (CITS) Help Desk located at 690 Kipling, Lakewood, Colorado.

3.4.2 Network Operations Center (NOC)

3.4.2.1 Requirement: The Offeror shall provide a 24x7x365 Network Operations Center that will provide constant monitoring and network management support services in all areas of network management as defined by the Open Systems Initiative (OSI) Integrated Network Management Model and the technical requirements defined in this RFP document.

3.4.2.2 Requirement: The Offeror shall provide a 1-800 support number with a maximum hold time of 5 minutes.

3.4.2.3 Requirement: The Network Operations Center shall have a dedicated technical support team assigned to support the State's network with an understanding of the design and configuration of the State's network.

3.4.2.4 Requirement: This offering shall have defined problem severity definitions and escalation procedures that specifies NOC maximum response time, NOC maximum repair time, and the escalation procedures for taking the problem from one level to another. The MNT offering shall have a defined post-mortem review process for major outages. Service Level Agreements, as requested in Section 3.4.8, shall include fault/problem response specifications.

3.4.2.5 Requirement: The Offeror shall describe their proposed problem identification, isolation, and resolution process.

3.4.2.6 Requirement: The Offeror shall describe the proposed problem escalation procedures that specifies NOC maximum response time, NOC maximum repair time, and those factors that will trigger problem escalation.

3.4.3 Fault Management

Fault/problem management is a process within network operations responsible for applying proven and consistent analytical approaches to network problem determination, isolation, and resolution. Its primary objective is to minimize network interruptions that would negatively impact service levels to the end user.

Proposals shall include detail of how the contractor will interact and communicate with the Colorado Information Technology Services help desk to notify, track and resolve problems. Offeror shall supply the State a direct or web-based interface to Offeror owned monitoring and management tools for real-time reporting, tracking, status and updates. Access is required for both Telecommunications Services at 2452 W. 2nd Avenue and the CITS Help Desk at 690 Kipling.

3.4.3.1 Requirement: The Offeror shall describe how real-time interfacing to the CITS help desk will occur.

3.4.3.2 Requirement: The MNT outsourced network management service offering shall have a defined reporting system to track problem volumes, patterns and trends. It shall have reporting capabilities to verify and analyze each month's service level agreement's conformance as proposed by the Offeror in Section 3.4.8.

3.4.3.3 Requirement: The Offeror shall provide monthly reporting capabilities and formats that they will provide for fault management monitoring and conformance.

3.4.3.4 Requirement: The Offeror shall provide an organizational chart depicting their technical support infrastructure and specify the number of full-time and part-time resources that will be dedicated to the MNT wide area network infrastructure during all Shifts.

3.4.4 Performance Management

Network Capacity and Performance management shall be a functional area within the Multi-Use Network service provider's overall network management service offering. Performance management is focused on capturing and analyzing network component utilization data to provide a basis for network optimization and capacity planning. Periodic performance reports (frequency to be determined at contract) will be provided to the State MNT staff on an ongoing basis. The Network Management process shall include a methodology for continuous performance optimization as well as periodic review and upgrading of capacity to ensure peak demand availability. Offerors shall provide a performance management capability that is proactive, not reactive. Elements of performance management shall include:

- Network Response Time
- Throughput
- Utilization
- Analysis and Tuning
- Capacity Planning
- Reporting
- Service Level Agreements

3.4.4.1 Requirement: The Offeror shall describe how their service offerings will address the area of performance management.

3.4.5 Configuration Management

Configuration management is the process within Network Operations responsible for maintaining a database of technical information on all network components and site

connections to the Multi-Use Network infrastructure. Moves, Adds, and Changes for Multi-Use Network site connections must be part of the overall Configuration Management service offering. The State MNT technical staff at Network Services shall act as consultants to all MNT participants, providing engineering on network usage and capabilities according to customer needs and requirements. The State MNT technical staff shall provide all specifications for configurations of and technologies used on the State owned Edge switches. The Offeror shall provide staff dedicated to the State network to support such Adds, Moves and Changes as specified by the State MNT technical staff for all MNT connections and configurations as well as outsourced management of State owned Edge switches and other devices.

In addition, configuration information is necessary to support the Fault/Problem management functions of the Network Operations Center during problem identification and resolution.

3.4.5.1 Requirement: The Offeror shall propose a method of communication and database maintenance to provide up-to-date management information to CITS.

3.4.5.2 Requirement: The Offeror shall describe how their service offerings will address the area of configuration management.

3.4.6 Security Management

Network Security management is the process within Network Operations that implements and enforces Multi-Use Network security policies and procedures to protect the State users of the network infrastructure from unauthorized access. The Multi-Use Network service provider's on-going security management service and practice shall include internal security audits, verification testing, and monitoring to accommodate the security requirements of the Multi-Use Network.

Network Security Best Practices

3.4.6.1 Requirement: The Offeror shall implement and enforce industry best practice WAN infrastructure security policies and procedures to protect the MNT network and its users from unauthorized access.

3.4.6.2 Requirement: For the purposes of this RFP, the Offeror shall identify and detail in their response which industry security standards they will implement and how their implementation reflects what they understand to be industry best practices.

3.4.6.3 Requirement: The Offeror's response shall also include a description of current offerings and plans for introduction of emerging security standards for enhanced EDI and e-commerce security requirements.

3.4.7 Administrative Management

Administrative/Cost Management is an ongoing function within Network Operations with two functions. The first is the monitoring and control of the cost of the network, for both capital and operating expenses, including a requirement for an integrated order processing and tracking system into the State's current systems and a web-based real time monitoring and tracking system with reporting capabilities. The Offeror shall supply a means to electronically provide invoices, in addition to hard copies, that can be processed by a State system. The intent of the State is to move toward such automation through EDI. The Offeror shall work with the State to define the requirements and establish the processing system. Regular and web-based real-time monitoring and reporting requirements--aggregate and client/site specific--will need to be mutually defined and established.

3.4.7.1 Requirement: The Offeror shall describe their order processing and tracking capabilities.

3.4.7.2 Requirement: The Offeror shall describe their capabilities for electronic billing and integration.

3.4.7.3 Requirement: The Offeror shall describe their current EDI capabilities and any technical format requirements.

The second function of Administrative/Cost Management is an MNT business offering that will require the establishment of a process for consolidating thousands of State contracts for services into a more simplified business model for determination of what is being delivered to the Multi-Use Network end user community. The goal is demonstrable efficiencies of cost and value gained.

3.4.8 Service Level Agreements (SLAs)

Service level agreements and Offeror performance commitments are mandatory requirements in this RFP. The Offeror must generate monthly network management reports and provide real time network management data to the State of Colorado Telecommunications Services Office. These reports and data will be used for the purpose of monitoring and verifying Offeror compliance with the service level agreements (SLAs) and commitments defined as a result of this RFP document.

3.4.8.1 Requirement: The Offeror must state all other SLA parameters/commitments they are willing to provide with the proposed solution. This must include such commitments as minor / major / critical failure Mean Time To Repair (MTTR) and all other pertinent SLA parameters. (M)

3.4.8.2 Requirement: The Offeror must work closely with State Multi-Use Network management staff to develop and provide monthly network management reports for Fault Management, Performance Management, Configuration Management, and

Security Management. These reports will be used to analyze and verify Offeror conformance with the resulting defined service level agreement requirements. (M)

Note: The following SLA definitions call for monitoring, reporting, and review processes for identification of failures and payment of penalties. To the extent that it is possible, the Offeror may propose to combine these oversight processes into a single monthly management review. The State encourages Offerors to propose processes that provide such efficiencies.

3.4.8.3 Network Availability SLA

Network availability is the amount of time that the MNT wide area network service is actually available for use by an End Site location. A robust network infrastructure that incorporates redundancy at the core backbone and Level 1 SANAP and ANAP locations can help guarantee a high level of network availability. For purposes of this technical requirements definition, network availability values will be defined for each of the three levels of the MNT wide area network infrastructure's hierarchical topology.

3.4.8.3.1 Technical Requirements

The following defines the monthly SLA commitment for 24 x 7 x 365 network availability at different levels in the Multi-Use Network wide area infrastructure.

Level 1 - Requirement: Connectivity from the MNT core backbone network infrastructure to the following Super ANAPs (SANAPs):

690 Kipling, Lakewood, CO

1525 Sherman, Denver, CO

4201 E. Arkansas, Denver, CO

1200 Larimer St., Denver, CO

must have a minimum monthly network availability factor of 99.97% per calendar month per SANAP. (This network availability percentage shall be greater if so specified by the Offeror.) The MNT service provider shall be entitled to no greater than 2 hours of scheduled downtime (in non-business hours) for any these sites per quarter or 3-month period. Scheduled downtime must be coordinated with the MNT staff with at least 14-days advance notice prior to performing the downtime in order for it not to be calculated into the network availability factor. Scheduled downtime must occur during off-hours. (M)

Level 2 - Requirement: Connectivity from all other MNT ANAPs in the core backbone network infrastructure to the geographically dispersed state-owned points of high user demand must have a minimum monthly network availability factor of 99.86% (60 min) per ANAP per calendar month (This network availability percentage will be greater if so specified by the Offeror.) The MNT Service Provider will be entitled to no greater than 4 hours of scheduled downtime for each Level 2 ANAP per quarter or 3-month period.

Scheduled downtime must be coordinated with the MNT staff with at least 14-days advance notice prior to performing the downtime in order for it not to be calculated into the network availability factor. Scheduled downtime must occur during off-hours. (M)

Level 3 – Requirement: Connectivity from the MNT ANAPs in the core backbone network infrastructure or State-owned ANAP locations to MNT End sites shall have a minimum monthly network availability factor of 99.72% per site, per month (2 hours)(This network availability percentage will be greater if so specified by the Offeror) The MNT Service Provider shall be entitled to no greater than 4 hours of scheduled downtime for each Level 3 End Site per quarter or 3-month period. Scheduled downtime must be coordinated with the MNT staff with at least 14-days advance notice prior to performing the downtime in order for it not to be calculated into the network availability factor. Scheduled downtime must be scheduled during off-hours.

3.4.8.3.1.1 Requirement: The above specified network availability factors must be calculated at the end of each calendar month according to State parameters (the percentages of availability shown above) and methods that the Offeror must propose in response to the Performance management monthly report requirements of this RFP. The Offeror must provide a brief description of their proposed methodology in their proposal. (M)

3.5 Project Management

The State of Colorado acknowledges that project management and implementation procedures will require alignment and adjustment of work processes for both the State MNT project organization and the Offeror's organization. This initial alignment will be part of the contract negotiation. However, the Offeror shall respond to the following responsibility requirements with proposed processes. The Offeror also shall describe any standard processes it already has developed for other client projects of similar scope which may be applied to the requirements of this RFP.

Project Management responsibilities of the State and Offeror follow:

3.5.1 State MNT Staff General Responsibilities

State of Colorado MNT management staff shall

1. Provide overall project direction and management
2. Review and approve all project plans and deliverables
3. Ensure that technical assistance and support are provided during the MNT Service Provider's implementation phases and ongoing upgrade design for of this project
4. Establish project organization by meeting with the MNT Service Provider's project management team to finalize and document areas of responsibility, personnel reporting relationships and administrative procedures
5. Establish evaluation mechanisms by setting up procedures for day-to-day control of the project
6. Finalize all project specific documentation standards and requirements for the various types of reports, technical/procedural documentation, and management materials that will be produced during the project. These standards will ensure consistency of approach and sufficiency of content
7. Coordinate other resources as needed to support the MNT implementation process
8. Provide on-site assistance on an as needed basis during the implementation phases of the project

3.5.2 Offeror Project Management Responsibilities

The following responsibilities are Project Management requirements of the Offeror. The Offeror shall describe in their RFP response how these responsibilities will be met:

3.5.2.1 Requirement: Offeror shall identify project milestones/deliverables and provide a preliminary schedule for when these targets will be met/delivered.

3.5.2.2 Requirement: Offeror shall propose and describe the anticipated use of a Project Management tracking/planning software application, including in their proposal some methodology for online or shared access with MNT management.

3.5.2.3 Requirement: Offeror shall propose a meeting/communication routine which identifies weekly, monthly, and on-demand options for management communication

3.5.2.4 Requirement: Offeror shall Submit Phase I implementation plan as part of RFP Response, containing detailed information on ANAP/SANAP sites to be completed in first year of implementation.

3.5.2.5 Requirement: Offeror shall submit proposed network acceptance test plans for end site implementations, ANAPs, and SANAPs.

3.5.2.6 Requirement: Offeror shall propose a mediation process for implementation project changes or variances

3.5.2.7 Requirement: Offeror shall submit Phase II Plan at month 6 of implementation, containing detailed information on ANAP/SANAP sites to be completed in second year of implementation.

3.5.2.8 Requirement: Offeror shall submit Phase III Plan at month 18 of implementation, containing detailed information on ANAP sites to be completed in third and final year of implementation.

3.6 Cost

Evaluation - The expected cost to the State during the entire basic period, including all options, will be evaluated. Offerors are expected to develop cost schedules based on the service requirements and phased implementation requirements detailed in this RFP. Offeror should use the volumes and sites specified in Attachment 5.4. Offeror's should assume that telecommunications traffic volumes will be split evenly between UBR and CBR services. The cost information supplied must reflect the full cost to the State of solutions proposed by the Offeror. The Offeror's response must differentiate between tariffed and non-tariffed services. Proposed services should be presented in catalog format with pricing schedules by service. The cost schedules must reflect the Offeror's implementation strategy for completing service requirements to the requisite minimum number of ANAP/SANAP sites in each year of the planned implementation, but is not limited to that minimum. The cost proposal should be presented in the following format:

3.6.1 Requirement: The catalog of services offered for network services.

3.6.2 Requirement: The catalog of services offered for management and monitoring services including optional costs for management and monitoring of agency end-site equipment.

3.6.3 Requirement: Year 1,2 and 3 network services costs, including installation and any start-up costs for all State sites connecting to completed ANAPs.

3.6.4 Requirement: Network Services Annual recurring costs - ongoing operating costs after the completion of the implementation (years 4-10).

3.6.5 Requirement: Year 1,2 and 3 management and monitoring costs, including consoles, software implementation, and startup costs for remote monitoring.

3.6.6 Requirement: Annual recurring costs - ongoing operating costs for network management and monitoring after the completion of the implementation (years 4-10).

3.6.7 Requirement: Summary costs - a summary of the total costs by year (3.6.3 through 3.6.6) of operating the MNT over the ten years of the contract (five year basic period, plus five one year extensions) including a total of all years.

Section 4 - Proposal Format / Evaluation Criteria

4.0 General Information

4.1 Sections / Possible Scores - The Multi-Use Network Proposal Evaluation will be evaluated and scored in five sections with a total point value of 1200:

| Section | Possible Score |
|-------------------------------------|-----------------------|
| Offeror Qualifications / Experience | 100 |
| Technical Requirements | 400 |
| Management and Monitoring | 200 |
| Project Management | 100 |
| Cost | 400 |

4.1.1 Proposal Evaluation Process

The MNT evaluation committee will review and score submitted proposals to determine which best meet RFP requirements, require only limited clarification; demonstrate a sound approach; show good understanding of the requirements; have adequate qualified personnel and past experience, finances, and resources to successfully complete the project; and pose no more than low risk of technical / schedule failure to the State.

The State reserves the right to award on receipt of initial proposals. If award is not made upon receipt of initial proposals, the State will provide Offerors remaining in the competitive range with written requests for clarifications/notice of deficiencies in their proposals. Offerors will be provided a date at which oral presentations will be heard. Oral presentations are planned to be two hours in duration. The presentation shall consist of an Offeror briefing concerning its technical approach and must also address clarifications and deficiency items identified by the State which may lead to discussions. Guidelines regarding the oral presentations will be distributed to those Offerors remaining in the competitive range.;

Offerors will be given an opportunity, after the conclusion of the oral presentations, to submit a best and final offer (BAFO). Offerors will be informed in writing of the date by which best and final offers are due. Offerors shall make any revisions the State deems necessary to clarify or correct weaknesses in their proposal. Revisions shall be made by "change page" to proposals, including pricing. The State does not require complete, substantial proposal rewrites. Offerors are cautioned not to make changes in the technical approach or make price/cost revisions that are not clearly explained and/or justified in any proposal revision. Offerors assume the risk that proposed revisions are adequately explained so the State understands the nature of the revisions and the risk to the State from unreasonable forecasts of contractor costs.

A **specification** is any description of the physical or functional characteristics or nature of the supply or service. Specifications are drafted with the objective of clearly describing the State's requirements. A **requirement** is a statement of the specific need(s) of the State. All requirements will be evaluated and are identified in Sections III and IV by **bold** letters and preceded by the word "**requirement**." Certain requirements are mandatory and must be met for award. These mandatory requirements are identified in Sections III and IV by the notation "**(M)**." BAFO that are deficient in mandatory requirements will be rejected and will not be eligible for further consideration.

Offerors may respond in the following ways:

Most proposal items require a text response. Statements or questions which require text responses will be presented in each section with a space provided for the response and with a page limit indicated where necessary. When a page limit is not specified, keep responses to single items to a half page or less. The State reserves the right to not consider any pages that exceed the page limit.

Items which require a text response will be indicated by the appearance of the italicized notation, "*Response:*", after the statement or question to be addressed. This notation will include page limits, indicate whether the text should be an attachment, and if so, will remind the Offeror to respond with a reference to an attachment.

Full compliance - This response shall be submitted in **bold** and is a positive response to all mandatory requirements.

Response: **Full compliance**

Alternative - This response shall also be submitted in bold, followed by not more than one half page of text describing the alternative proposal for meeting the requirement.

No response - This response shall be submitted in **bold** and is only acceptable for non-mandatory requirements. A "**No response**" answer signifies that the Offeror will not include that requirement in their proposal.

Detailed text response - Several requirements ask for a detailed written explanation (with a page limit indicated) of the Offeror's response.

4.2 Offeror Qualifications / Experience (100 Points)

4.2.1 Qualifications

For the purposes of this RFP, the State of Colorado DOP requires the Offeror to:

4.2.1.1 Requirement: Provide a brief narrative description of your organization's qualifications to deliver the services sought in this RFP. This narrative must cover the following topics:

4.2.1.1.1 Requirement: Experience or participation in planning, designing, implementing, and operating a network infrastructure of similar scope to the one sought in this RFP.

4.2.1.1.2 Requirement: Experience with wide area network migration and implementation for Projects of similar size to the Multi-Use Network where aggregation of a diverse network infrastructure into a new, state-of-the-art wide area infrastructure was required.

4.2.1.1.3 Requirement: The Offeror's or proposed sub-contractor's previous experience staffing and operating a 24x7x365 Network Operations Center (NOC).

4.2.1.1.4 Requirement: The Offeror's or proposed sub-contractor's previous experience providing outsourced network management services for a wide area network similar in size and scope to what is sought in this RFP in the following areas of OSI Network Management: Fault Management; performance management; configuration management; capacity management; and account management.

4.2.1.2 Requirement: Provide a description of your organization's background and organizational history, including:

4.2.1.2.1 Years in business;

4.2.1.2.2 Location of offices; and,

4.2.1.2.3 Form of business (corporation, partnership, joint venture, LLC, etc.)

4.2.1.2.4 A description of the offering organization's size and client base.

4.2.1.3 Upon Notice of Intent to Award, the Prime Contractor shall supply documentation of financial responsibility, financial stability, and sufficient financial resources to provide the services sought in this RFP, within the required time frames. This response must include:

4.2.1.3.1 Other financial information by which the State may reasonably formulate an opinion about the relative stability and financial strength of the Prime Contractor.

This information shall include the most recent audited financial statement or a banking reference and a credit rating by a rating service.

Response (limit 4 pages; refer to attachment):

4.2.2 Experience

Requirement: Proposals shall provide the following information to support the Offeror's experience in delivering services such as those sought under this RFP:

4.2.2.1 A brief description of how long the Offeror has been performing the services sought under this RFP.

4.2.2.2 Two lists of key personnel, one for key staff whose responsibilities will be primarily implementation (Project Management) and a second for key management and maintenance staff whose responsibilities will be ongoing for the duration of the contract. These lists shall include definitions of the level of responsibility and involvement for each person, and brief descriptions which should include each individual's title, education, and employment history. These lists shall also identify key Sub-Contractor personnel.

Response(limit 4 pages; refer to attachment):

4.3 Technical Approach / Requirements (400 Points)

Where requested, Offeror must supply descriptive information or statements of willingness to provide a service or respond to a specific standard. The Offeror must describe how the proposed system will fulfill the given requirements or how an alternative to the requirement will meet the State of Colorado's needs. These responses shall be supplied after each stated requirement, where applicable. Note that alternate responses should be described in a brief narrative response immediately below the stated requirement.

4.3.1 MNT Backbone Infrastructure

4.3.1.1 Requirement: Provide a detailed description of the technical approach that will be used to deliver a single MNT “cloud” based on ATM technology to all counties in the state.

4.3.1.2 Requirement: Provide a high-level diagram indicating any redundant and diverse paths used for MNT backbone survivability. Show all ANAP locations provided by the Offeror and any State owned facilities where co-location is deemed required. Provide bandwidth provisioning between all ANAPs. Indicate and list locations served by, and names of, all companies and partnerships involved in the backbone delivery of services.

Response (refer to attachment):

4.3.1.3 Requirement: Address how the proposed technical approach will minimize punitive costs due to such factors as distance and LATA boundaries.

Response (limit 6 pages, including any illustrations):

4.3.1.4 Requirement: A capacity planning process is critical throughout the life cycle of the network. Describe your technique for such implementation and your ability to adapt to State business needs in order to maintain future growth.

Response (limit one half page):

4.3.2 ANAP and SANAP Connectivity and Bandwidth Requirements and Service Offerings

4.3.2.1 Requirement: Describe how ANAP and SANAP extension into the "cloud" and their connectivity and bandwidth requirements will be addressed. Include related issues, such as collocation of facilities and ANAP equipment specifications, as well as interconnection to the backbone.

Response (limit two pages):

4.3.2.2 Requirement: The MNT high-speed communication links to the ANAPs and end sites must be based on industry accepted standards from the following groups: ATM Forum, IETF, ITU, IEEE, Bellcore and ANSI. (M)

Response:

4.3.2.3 Requirement: The MNT network "cloud" must be based on ATM technology. (M)

Response:

4.3.2.4 Requirement: Emerging Standards – Where unpublished standards are used in this specification, a “grace period” of 12 months from adoption is given wherein the Offeror and their chosen manufacturers will be automatically exempted from compliance. Policy, guidelines and process for case-by-case consideration of waiver in these situations are described in Attachment 5.6.

Response:

4.3.2.5 Requirement: ATM switching capabilities must support all current standards, features and options on which these requirements are based. (M)

Response:

4.3.2.6 Requirement: All future ATM Forum standards, features and options on which these requirements are based shall be supported within 12 months of ratification by the ATM Forum.

Response:

4.3.2.7 Requirement: The Offeror shall specify what the minimum parameters for voice communications, video communications and hi-priority, interactive data and video communications shall be for the following:

- Throughput
- Delay
- Jitter
- Packet Loss/Dropped Packets
- Cell Loss Ratio

Response:

4.3.2.8 Requirement: Accurate timing, traceable to a Stratum I source, must be available at the Offeror’s interface to all State ANAP, SANAP, and Edge Site locations. (M)

Response:

4.3.2.9 Requirement: The Offeror must be able to provide incremental and variable bandwidth allocations on a per Mb basis. Describe your bandwidth offering. (M)

Response:

4.3.2.10 Requirement: All ATM offerings must comply to at least the ATM Forum User-Network Interface (UNI) Signaling Specification, Version 3.1 with plans to upgrade to UNI 4.0. Describe your planned schedule for upgrades. (M)

Response:

4.3.2.11 Requirement: The MNT network "cloud" must support logical network connections and paths in the form of Permanent Virtual Circuits (PVCs). (M)

Response:

4.3.2.12 Requirement: The MNT network "cloud" shall support logical network connections and paths in the form of Switched Virtual Circuits (SVCs). Describe your ability and willingness to do this. According to UNI 4.0 specification, describe the addressing structure you will use in support of SVC pt-pt calls. Show how address translations between State Customer Premise Equipment (CPE) and the public network ATM "cloud" will be handled.

Response:

4.3.2.13 Requirement: Describe parameters on which SVC billing will be based and any billing issues that may be unresolved.

Response:

4.3.2.14 Requirement: The MNT network "cloud" must provide and support Circuit Emulation (CE) necessary for time sensitive applications such as voice, video, and Time Division Multiplexing (TDM) (M)

Response:

4.3.2.15 Requirement: ATM to Frame Relay Interworking must be provided for DS-0 and DS-1 rates throughout the entire "cloud". If Frame Relay service is not provided by the Offeror, co-location of the providing vendor's terminations must be accommodated. Because of the extensive nature of the current State Frame Relay network, this requirement is mandatory within Phase I of implementation. (M)

Response:

4.3.2.16 Requirement: The MNT network "cloud" shall support logical Point-to-Multipoint connections in the form of PVCs.

Response:

4.3.2.17 Requirement: The MNT network "cloud" shall support logical pt-to-Multipoint connections in the form of SVCs.

Response:

4.3.2.18 Requirement: The MNT network "cloud" shall support Inverse Multiplexing over ATM (IMA)

Response:

4.3.2.19 Requirement: The Offeror shall implement Multi-Protocol Switching (MPLS), upon expected completion of standards. This will allow transport of IP over ATM with the Quality of Service (QOS) required by State applications, reducing latency and increasing throughput. Respond with anticipated schedule for such implementation.

Response:

4.3.2.20 Requirement: The Offeror shall implement PNNI 1.0 with upgrade to PNNI 2.0 upon completion of standards.

Response:

4.3.2.21 Requirement: For those offering dial tone capabilities from their facilities, an integration of narrowband voice and ATM (i.e. Circuit Emulation, AAL2, etc.) must be available at ANAP locations to SANAPs, and Edge Sites from the ATM “cloud”. Describe your ability to do this, what method or methods of integration you would use, and what phase of implementation the offerings would be available.
(M)

Response:

4.3.2.22 Requirement: The Offeror shall provide full integration between voice (SS7 signaling) and ATM when available. Describe your ability to do this, what methods of integration you would use, and what phase of implementation the offerings would be available.

Response:

4.3.2.23 Requirement: Specify other or alternative service offerings or methods that are being considered for the MNT wide area network but are not necessarily ready through approved specifications and production implementation. Also provide an anticipated service release date if not currently ready.

Response:

4.3.2.24 Requirement: The Offerors must provide a geographic map of ANAP locations with clear detail of all service areas they each support. (i.e. counties, cities, towns, etc.) Include bandwidth capabilities and all services, advanced and otherwise, that can be provided from each ANAP to their supported locations. Describe any requirements by the Offeror for State assistance for ANAP locations.
(M)

Response (limit 2 pages):

4.3.2.25 Requirement: List all switch and equipment manufacturers used in the backbone network at ANAP locations. Describe all communications equipment capabilities and their adherence to existing standards. Describe any proven interoperability tests with other manufacturer’s edge switches and devices.

Response (limit 2 pages):

4.3.2.26 Requirement: The “Beanpole Bill” will result in additional opportunities for the establishment of “Local ANAPs” within the communities they service.

Address your ability to accommodate additional infrastructure within these communities to the MNT backbone. Describe any co-location issues that may result and your ability to accommodate them.

Response (limit 1 page):

4.3.2.27 Requirement: All MNT ANAP offerings must be Year-2000 compliant. (M)

Response:

4.4 Traffic Management and Quality of Service (QOS) Parameters

The architecture for ATM virtual connections required by the State at the ATM layer consists of the following four service categories according to the ATM Forum Traffic Management, Version 4.0 Specification. All service categories will apply to both PVC and SVC, VCCs and VPCs. Please note that Available Bit Rate (ABR) is highly desired. All technical requirements will be based on approved standards and specifications according to the ATM Forum, IETF, ITU, IEEE, and /or ANSI.

The required service categories are:

4.4.1 Requirement: Constant Bit Rate (CBR) -- Supports real-time applications requiring a fixed amount of bandwidth . Supports tightly constrained Cell Transfer Delay (CTD) and Cell Delay Variation (CDV) for applications that cannot tolerate variations in delay such as voice, constant-bit-rate video, and Circuit Emulation Service (CES). (M)

Response:

4.4.2 Requirement: Real time Variable Bit Rate (rt-VBR) -- Supports time-sensitive applications which also require constrained delay and delay variation requirements but transmit at a varying rate. Such bursty, delay-variation-sensitive sources are voice and variable-bit-rate video. (M)

Response:

4.4.3 Requirement: Non real time Variable Bit Rate (nrt-VBR) -- Supports applications that have no constraints on delay and delay variation, but which have variable-rate, bursty traffic characteristics. Such applications include packet data transfers, terminal sessions, and file transfers. (M)

Response:

4.4.4 Requirement: Unspecified Bit Rate (UBR) -- This service category is a "best effort" service, which does not require tightly constrained delay and delay variation and provides no specific quality of service or guaranteed throughput. Most LANs and IP implementations provide a "best effort" service today. (M)

Response:

4.4.5 Requirement: Available Bit Rate (ABR) -- The aim of this service is to provide access to bandwidth currently not in use by other service categories to users who can adjust their transmission rate. In exchange for this cooperation by the user, the network provides a service with very low loss. ABR service does not provide bounded delay variation. Good candidates for ABR are LAN interconnection, high performance file transfers, database archival, non-time-sensitive traffic and web browsing.

Response:

4.4.6 Other considerations:

4.4.6.1 Cell Delay Variation (CDV) -- CDV is essential for Constant Bit Rate (CBR) connection performance. Its value is necessary for the dimensioning of the elastic buffer required at the terminating end of the connection for absorbing the accumulated CDV, regardless of whether the network is public or private.

According to the ATM Forum's Traffic Management Specification Version 4.0, B.2.2.5, a common, maximum cell delay variation value for private, public and hybrid private/public networks is essential. As an implementation guideline, the receiver CDVT should be designed to handle the case where a connection traverses three networks, each having three switches in tandem.

4.4.6.2 Requirement: Respond as to how you will handle this recommendation in order to guarantee Constant Bit Rate connection performance. Please describe how much CDVT the public network will tolerate before it throws cells away for all service categories, classes of service and bandwidth allocations.

Response:

4.5 ANAP / SANAP Implementation

The installation of the required capabilities for all 70 ANAP/ SANAP locations will be over a 3-year phased implementation schedule. A table is provided for those responding to the RFP to identify which of the 70 ANAP SANAP sites they propose to provide completed services to during each phase of the MNT implementation. Higher potential scores will be placed on those locations deemed *rural* through population studies. Less weight will be given to suburban areas and even less to urban areas with higher population levels. The weighting method is also designed to reward completion of rural sites in years one and two of implementation with higher scores than can be earned by suburban or urban site completions.

The following is a schedule of requirements in each phase:

4.5.1 Phase I - January, 2000 to December, 2000

Completed installation of the required telecommunications capabilities to the State of Colorado's ANAP and SANAP locations, a minimum of 21 access points (30%), as listed by the Offeror for Phase I, is required. Before each site is deemed completed, testing will

be performed by the vendor with verification and acceptance by the State. **The Offeror shall provide all design, project management, and equipment necessary to meet all requirements listed in Section III of this RFP.**

4.5.2 Phase II - January 2001 to December, 2001

Completed installation of the required telecommunications capabilities to the State of Colorado's ANAP and SANAP locations, an minimum 50% of the 70 total, as listed by the Offeror for Phase II, is required. This amounts to a total of 56 access points to be operational by the completion of Phase II. By the end of Phase II, a minimum of 80% of the required ANAP and SANAP sites shall be operational. Before each site is deemed completed, testing will be performed by the vendor with verification and acceptance by the State. **The Offeror shall provide all design, project management, and equipment necessary to meet all requirements listed in Section III of this RFP.**

4.5.3 Phase III - January, 2002 to December, 2002

Completed installation of the required telecommunications capabilities to the State of Colorado's ANAP and SANAP locations, the final 20% of the 70 total or remaining sites, as listed by the Offeror for Phase III, is required. This completes the 70 access points. Before each site is deemed completed, testing will be performed by the vendor with verification and acceptance by the State. **The Offeror shall provide all design, project management, and equipment necessary to meet all requirements listed in Section III of this RFP.**

4.5.4 ANAP / SANAP Implementation Response Instructions

To determine the score for completion of ANAP / SANAP installations to meet the State of Colorado's Multi-Use Network requirements, the following evaluation process will be used. Offeror responses placed in the response code column for each requirement will be scored by multiplying the number in the PTS (Points) column by the weight factor number for the indicated year of implementation. The point system is designed to reward early completion of ANAP service offerings in rural areas. **Note:** Completion is not defined as a physical installation, although that may be necessary, but rather as meeting the service requirements to a location, however that may be accomplished. Also note that the completion requirements for years one, two, and three are *minimums* and Offerors may propose schedules which exceed the minimums in years one and two. In such a case, year three would then require only completion of any remaining ANAP / SANAP sites of the 70 designated.

The Offeror shall use **only** the codes below in responding to each requirement in this section.

| Response Code | Definition |
|---------------|--|
| C | Proposed complies with requirement |
| X | Service cannot be provided with requested time frame |
| A | An alternative is recommended |

Place your response code (C, X or A) within the response code column next to each requirement. Where applicable and where requested, additional information shall be supplied by the Offeror which describes the way in which the proposed system will fulfill the given requirement or how an alternative to the requirement will meet the State of Colorado's needs. The additional information shall be supplied after each statement of requirement or question, where applicable. We strongly recommend that you respond to each requirement; omitted responses will be evaluated as response codes of X (Offeror's proposal will not provide service).

The following table is a list of desired ANAP / SANAP sites for the State of Colorado Multi-Use Network. Please enter code C in the appropriate phase/year box to indicate when a site implementation will be completed, X if service cannot be provided, or A if an alternative site or off-site method of providing services is proposed. Available points (PTS column) are multiplied by 100 points if completed in Phase I (2000), multiplied by 50 points if completed in Phase II (2001), and multiplied by 25 points if completed in Phase III (2002). The formula for the ANAP tables produces a highest potential score of near 100,000, which will then be divided by 1000 ($\times 0.001$) and then converted to a percentage of the maximum points to determine a score on a 100 point basis.

Note: Broomfield becomes Colorado's 64th county in 2001; ANAP implementation in Broomfield cannot take place before that year. Also note that "A" coding for alternative methods may or may not adversely affect the score for that site. "A" coded sites will be eligible for the full point value available for the site type / implementation year. However, the perceived quality of the alternative method may be determined in the evaluation process to be worth fewer points, and then be scored lower by the evaluation committee. If the Offeror proposes alternative methods for providing the required service or partial service at a site or sites, they must provide a narrative description (following the table) of the method and its proposed outcomes. This description will be used by the evaluation committee to determine scoring values for a specific proposal's "A" coded sites.

Bandwidth requirements for the 70 ANAP/SANAP locations and other detail are available in Attachment 5.4. SANAP sites are listed in the following table in **bold**:

| ANAP/SANAP SITES | | | | | | | |
|------------------|--------|-----|----------|----------------------------|---------------------------|---------------------------|-------|
| | COUNTY | PTS | LOCATION | PHASE 1 <i>WT= x100</i> | PHASE 2 <i>WT= x50</i> | PHASE 3 <i>WT= x25</i> | SCORE |
| 1 | ADAMS | 5 | Brighton | | | | |

| | | | | | | | |
|----|-------------|----|-------------------------|--|--|--|--|
| 2 | ALAMOSA | 25 | Alamosa | | | | |
| 3 | ARAPAHOE | 5 | Littleton | | | | |
| 4 | ARCHULETA | 25 | Pagosa Springs | | | | |
| 5 | BACA | 25 | Springfield | | | | |
| 6 | BENT | 25 | Las Animas | | | | |
| 7 | BOULDER | 5 | Boulder | | | | |
| 8 | BROOMFIELD | 5 | Broomfield (2002) | | | | |
| 9 | CHAFFEE | 25 | Salida | | | | |
| 10 | | 25 | Buena Vista | | | | |
| 11 | CHEYENNE | 25 | Cheyenne Wells | | | | |
| 12 | CLEAR CREEK | 25 | Georgetown | | | | |
| 13 | CONEJOS | 25 | Conejos | | | | |
| 14 | COSTILLA | 25 | San Luis | | | | |
| 15 | CROWLEY | 25 | Ordway | | | | |
| 16 | CUSTER | 25 | Westcliffe | | | | |
| 17 | DELTA | 25 | Delta | | | | |
| 18 | DENVER | 5 | 1525 Sherman St. | | | | |
| 19 | | 5 | 4201 E. Arkansas | | | | |
| 20 | | 5 | CU Denver | | | | |
| 21 | DOLORES | 25 | Dove Creek | | | | |
| 22 | DOUGLAS | 10 | Castle Rock | | | | |
| 23 | EAGLE | 25 | Eagle | | | | |
| 24 | EL PASO | 5 | Colorado Springs | | | | |
| 25 | ELBERT | 25 | Kiowa | | | | |
| 26 | FREMONT | 25 | Cañon City | | | | |
| 27 | GARFIELD | 25 | Glenwood Springs | | | | |
| 28 | | 25 | Rifle | | | | |
| 29 | GILPIN | 25 | Central City | | | | |
| 30 | GRAND | 25 | Hot Sulphur Springs | | | | |
| 31 | GUNNISON | 25 | Gunnison | | | | |
| 32 | HINSDALE | 25 | Lake City | | | | |
| 33 | HUERFANO | 25 | Walsenburg | | | | |
| 34 | JACKSON | 25 | Walden | | | | |
| 35 | JEFFERSON | 5 | Golden | | | | |
| 36 | | 5 | 690 Kipling | | | | |
| 37 | KIOWA | 25 | Eads | | | | |
| 38 | KIT CARSON | 25 | Burlington | | | | |
| 39 | LA PLATA | 25 | Durango | | | | |
| 40 | LAKE | 25 | Leadville | | | | |
| 41 | LARIMER | 10 | Ft. Collins | | | | |
| 42 | LAS ANIMAS | 25 | Trinidad | | | | |
| 43 | LINCOLN | 25 | Hugo | | | | |
| 44 | | 25 | Limon | | | | |
| 45 | LOGAN | 25 | Sterling | | | | |
| 46 | MESA | 10 | Grand Junction | | | | |
| 47 | MINERAL | 25 | Creede | | | | |

| | | | | | | | |
|----|------------|----|-------------------|--|----------------|--|--|
| 48 | MOFFAT | 25 | Craig | | | | |
| 49 | MONTEZUMA | 25 | Cortez | | | | |
| 50 | MONTROSE | 25 | Montrose | | | | |
| 51 | MORGAN | 25 | Ft. Morgan | | | | |
| 52 | OTERO | 25 | La Junta | | | | |
| 53 | OURAY | 25 | Ouray | | | | |
| 54 | PARK | 25 | Fairplay | | | | |
| 55 | PHILLIPS | 25 | Holyoke | | | | |
| 56 | PITKIN | 25 | Aspen | | | | |
| 57 | PROWERS | 25 | Lamar | | | | |
| 58 | PUEBLO | 10 | Pueblo, 902 Erie | | | | |
| 59 | RIO BLANCO | 25 | Meeker | | | | |
| 60 | RIO GRANDE | 25 | Del Norte | | | | |
| 61 | ROUTT | 25 | Steamboat Springs | | | | |
| 62 | SAGUACHE | 25 | Saguache | | | | |
| 63 | SAN JUAN | 25 | Silverton | | | | |
| 64 | SAN MIGUEL | 25 | Telluride | | | | |
| 65 | SEDGWICK | 25 | Julesburg | | | | |
| 66 | SUMMIT | 25 | Breckenridge | | | | |
| 67 | TELLER | 25 | Cripple Creek | | | | |
| 68 | WASHINGTON | 25 | Akron | | | | |
| 69 | WELD | 10 | Greeley | | | | |
| 70 | YUMA | 25 | Wray | | | | |
| | | | | | Total: | | |
| | | | | | x .001= | | |

If the Offeror codes any site above with an "A" for an alternative method of providing service, that alternative method shall be described here. Offerors may *attach* detailed descriptions of their proposed implementation or alternate service provision for each ANAP / SANAP location listed above. These descriptions should not exceed one half page in length for each location. Note that these descriptions are not required.

Response (refer to attachment):

4.5.5 ANAP / SANAP Implementation Detail

4.5.5.1 Requirement: Provide a detailed, phased implementation plan and schedule of services to be provided to all ANAP locations.

Response (refer to attachment):

4.5.5.2 Requirement: Provide a detailed migration strategy for transitioning any existing State circuits, as determined by the Offeror and MNT project team upon implementation, to the MNT backbone infrastructure.

Response: (refer to attachment):

4.6 Connectivity to State Agency Sites

A major goal of the MNT is to provide the capability of connectivity and interoperability between all State agencies through one effective "cloud." Advanced services shall ultimately be extended to such locations.

4.6.1 Requirement: Describe your ability to provide connectivity to State Edge Sites listed in Attachment 5.4.

4.6.2 Requirement: Describe any local physical infrastructure and loop qualifications that could provide connectivity to State Agency End Sites. State whether they are owned by the Offeror or that Offeror has acquired access to them through partnerships with local entities. List such partnerships, if any.

Response (limit two pages):

4.6.3 Requirement: Describe any additional or innovative methods of extended delivery of MNT infrastructure and services that will be available. Detail any problem areas and possible solutions.

Response:

4.6.4 Requirement: The State requires that the following services be made available to end sites within the MNT network "cloud":

4.6.4.1 Requirement: DS0, 56kbps/64/kbps, WAN communication links must be provided to MNT end sites terminating within the "cloud." (M)

Response:

4.6.4.2 Requirement: DS-1, 1.544Mbps, WAN communication links must be provided to MNT ends sites terminating within the "cloud." (M)

Response:

4.6.4.3 Requirement: DS-3 ATM service shall be made available to MNT end sites terminating within the "cloud."

Response:

4.6.4.4 Requirement: Inverse Multiplexing over ATM (IMA) shall be made available to MNT end sites terminating within the "cloud."

Response:

4.6.4.5 The State desires that ISDN service be made available to MNT End Sites terminating within the "cloud."

Response:

4.6.4.6 The State desires that Digital Subscriber Line (xDSL) be made available to MNT End Sites terminating within the "cloud"

Response:

4.6.4.7 The State desires that Dial Tone shall be provided to MNT end sites terminating within the "cloud."

Response:

4.6.4.8 The State desires VPN service offerings.

Response:

4.6.4.9 Requirement: The Offeror shall categorize all potential End Site locations according to scheduled availability and types of service offerings.

4.6.4.10 Requirement: The Offeror shall specify other or alternative service offerings or methods that are being considered for the MNT wide area network.

4.7 Management and Monitoring (200 Points)

The following section contains requirements that are intended to define the general monitoring and management needs of the State of Colorado for the Multi-Use Network implementation and on-going operations. This section is intended as a guideline for the Offeror and is not all-inclusive. The State is open to consideration of any additional management offerings that can be provided by the Offeror. This offering shall include both Technical and Business areas as follows:

4.7.1 Technical Monitoring and Management

The State of Colorado will retain ownership of all Edge ATM switches and devices terminating on the MNT backbone. Outsourced monitoring and management of this State owned equipment, and all MNT leased lines, is requested of the Offeror and includes the operations and capabilities in the following categories:

- Fault Management
- Configuration Management
- Accounting Management
- Performance Management
- Security Management

4.7.1.1 Requirement: Indicate your ability to provide this service.

Response:

4.7.1.2 Requirement: The Offeror shall support, at a minimum, the following Network Management standards:

- **Simple Network Management Protocol (SNMP)**
- **MIBs to support specifications throughout this RFP.**

Response:

4.7.1.3 Requirement: In addition to MNT Edge Sites, circuits, and devices, provide a catalog of Monitoring and Management services, in the total package from the Offeror, that could be subscribed to by other state agencies for such End Site services.

Response (refer to attachment):

4.7.1.4 Requirement: Provide all network management tools to track the network performance, monitor network status, report and track network trouble and generate management reports through their Network Operations Center (NOC). The proposed network management tools should include such features as traffic analysis, call detail recording, and reporting. Regular and web-based real-time monitoring and reporting requirements--aggregate and client/site specific--will need to be defined, established, and supported.

Response:

4.7.2 Network Operations Center (NOC)

4.7.2.1 Requirement: Provide a 24x7x365 Network Operations Center that will provide constant monitoring and network management support services in all areas of network management as defined by the OSI Integrated Network Management Model and the technical requirements defined in this RFP document.

Response:

4.7.2.2 Requirement: Provide a 1-800 support number with a maximum hold time of 5 minutes.

Response:

4.7.2.3 Requirement: The Network Operations Center shall have a dedicated technical support team assigned to support the State's network with an understanding of the design and configuration of the State's network.

Response:

4.7.2.4 Requirement: This offering shall have defined problem severity definitions and escalation procedures that specify NOC maximum response time, NOC maximum repair time, and the escalation procedures for taking the problem from one level to another. The MNT offering shall have a defined post-mortem review process for major outages. Service Levels Agreements, as requested in Section 3.4.8, shall include fault/problem response specifications.

Response (refer to Offeror SLA response):

4.7.2.5 Requirement: Describe the proposed problem identification, isolation, and resolution process.

Response:

4.7.2.6 Describe the proposed problem escalation procedures that specifies NOC maximum response time, NOC maximum repair time, and those factors that will trigger problem escalation.

Response:

4.7.3 Fault Management

Fault/problem management is a process within network operations responsible for applying proven and consistent analytical approaches to network problem determination, isolation, and resolution. Its primary objective is to minimize network interruptions that would negatively impact service levels to the end user.

Proposals must include detail of how the contractor will interact and communicate with the Colorado Information Technology Services help desk to notify, track and resolve problems. Offeror shall supply the State a direct or web-based interface to Offeror owned monitoring and management tools for real-time reporting, tracking, status and updates. Access is required for both Telecommunications Services at 2452 W. 2nd Avenue and the CITS Help Desk at 690 Kipling.

4.7.3.1 Requirement: Describe how real-time interfacing to the CITS help desk will occur.

Response:

4.7.3.2 Requirement: The MNT outsourced network management service offering shall have a defined reporting system to track problem volumes, patterns and trends. It shall also have reporting capabilities to verify and analyze each month's service level agreement's conformance as proposed by the Offeror in Section 4.7.8.

Response:

4.7.3.3 Requirement: Provide monthly reporting capabilities and formats for fault management monitoring and conformance.

Response:

4.7.3.4 Requirement: Provide an organizational chart depicting your technical support infrastructure and specify the number of full-time and part-time resources that will be dedicated to the MNT wide area network infrastructure during all Shifts.

Response:

4.7.4 Performance Management

Network Capacity and Performance management must be a functional area within the Multi-Use Network service provider's overall network management service offering. Performance management is focused on capturing and analyzing network component utilization data to provide a basis for network optimization and capacity planning. Periodic performance reports will be provided to the State MNT staff on an ongoing basis. The Network Management process must include a methodology for continuous performance optimization as well as periodic review and upgrading of capacity to ensure peak demand availability. Offerors must provide a performance management capability that is proactive, not reactive. Elements of performance management desired by the State include:

Network Response Time
Throughput
Utilization
Analysis and Tuning
Capacity Planning
Reporting
Service Level Agreements

4.7.4.1 Requirement: Please describe how your service offerings will address the area of performance management.

Response:

4.7.5 Configuration Management

Configuration management is the process within Network Operations responsible for maintaining a database of technical information on all network components and site connections to the Multi-Use Network infrastructure. Moves, Adds, and Changes for Multi-Use Network site connections must be part of the overall Configuration Management service offering. The State MNT technical staff at Network Services shall act as consultants to all MNT participants, providing engineering on network usage and capabilities according to customer needs and requirements. The State MNT technical staff shall provide all specifications for configurations of and technologies used on the State owned Edge switches. The Offeror shall provide staff dedicated to the State network to support such Adds, Moves and Changes as specified by the State MNT technical staff for all MNT connections and configurations as well as outsourced management of State owned Edge switches and other devices.

In addition, configuration information is necessary to support the Fault/Problem management functions of the Network Operations Center during problem identification and resolution.

4.7.5.1 Requirement: The Offeror shall propose a method of communication and database maintenance to provide up-to-date management information to CITS.

Response:

4.7.5.2 Requirement: Describe how your service offerings will address the area of configuration management.

Response:

4.7.6 Security Management

Network Security management is the process within Network Operations that implements and enforces Multi-Use Network security policies and procedures to protect the State users of the network infrastructure from unauthorized access. The Multi-Use Network service provider's on-going security management service and practice shall include

internal security audits, verification testing, and monitoring to accommodate the security requirements of the Multi-Use Network.

Network Security Best Practices

4.7.6.1 Requirement: The Offeror shall implement and enforce industry best practice WAN infrastructure security policies and procedures to protect the MNT network and its users from unauthorized access.

Response:

4.7.6.2 Requirement: For the purposes of this RFP, the Offeror shall identify and detail in your response which industry security standards they will implement and how their implementation reflects what they understand to be industry best practices.

Response:

4.7.6.3 Requirement: The Offeror's response shall include a description of current offerings and plans for introduction of emerging security standards for enhanced EDI and e-commerce security requirements.

Response:

4.7.7 Administrative Management

Administrative/Cost Management is an ongoing function within Network Operations with two functions. The first is the monitoring and control of the cost of the network, for both capital and operating expenses. This will include a requirement for an integrated order processing and tracking system into the State's current systems and a web-based real time monitoring and tracking system with reporting capabilities. The Offeror shall supply a means to electronically provide invoices, in addition to hard copies, that can be processed by a State system. In the long term, the State desires to move toward such automation through EDI. The Offeror shall work with the State to define the requirements and establish the processing system. Regular and web-based real-time monitoring and reporting requirements--aggregate and client/site specific--will need to be mutually defined and established.

4.7.7.1 Requirement: Describe your order processing and tracking capabilities.

Response:

4.7.7.2 Requirement: Describe your capabilities for electronic billing and integration.

Response:

4.7.7.3 Requirement: Describe your current EDI capabilities and any technical format requirements

Response:

4.7.8 Service Level Agreements (SLAs)

Service level agreements and Offeror performance commitments are mandatory requirements in this RFP. The Offeror will be responsible for generating monthly network management reports as well as providing real time network management data to the State of Colorado Telecommunications Services Office. These will be used for the purpose of monitoring and verifying Offeror compliance with the service level agreements (SLAs) and commitments defined as a result of this RFP document.

4.7.8.1 Requirement: The Offeror must state all other SLA parameters/commitments they are willing to provide with the proposed solution. This should include such commitments as minor / major / critical failure Mean Time To Repair (MTTR) and all other pertinent SLA parameters. (M)

Response (refer to attachment):

4.7.8.2 Requirement: The Offeror must work closely with State Multi-Use Network management staff to develop and provide monthly network management reports for Fault Management, Performance Management, Configuration Management, and Security Management. These reports will be used to analyze and verify Offeror conformance with the resulting defined service level agreement requirements. (M)

Response:

Note: The following SLA definitions call for monitoring, reporting, and review processes for identification of failures and payment of penalties. To the extent that it is possible, the Offeror may propose to combine these oversight processes into a single monthly management review. The State therefore encourages Offerors to propose processes that provide such efficiencies.

4.7.8.3 Network Availability SLA

Network availability is the amount of time that the MNT wide area network service is actually available for use by an End Site location. A robust network infrastructure that incorporates redundancy at the core backbone and Level 1 SANAP and ANAP locations can help guarantee a high level of network availability. For purposes of this technical requirements definition, network availability values will be defined for each of the three levels of the MNT wide area network infrastructure's hierarchical topology. **Note: The Network Availability requirements will become part of the Service Level Agreement conditions the MNT Offeror must comply with in the Pro Forma Contract in Section 2 of this RFP document.**

4.7.8.3.1 Technical Requirements

The following shall define the monthly SLA commitment for network availability at different levels in the Multi-Use Network wide area infrastructure.

4.7.8.3.1.1 Level 1 - Requirement: Connectivity from the MNT core backbone network infrastructure to the following Super ANAPs (SANAPs):

**690 Kipling, Lakewood, CO
1525 Sherman, Denver, CO
4201 E. Arkansas, Denver, CO
1200 Larimer St., Denver, CO**

must have a minimum monthly network availability factor of 99.97% per calendar month per SANAP. (This network availability percentage will be greater if so specified by the Offeror.) The MNT service provider will be entitled to no greater than 2 hours of scheduled downtime for any these sites per quarter or 3-month period. Scheduled downtime must be coordinated with the MNT staff with at least 14-days advance notice prior to performing the downtime in order for it not to be calculated into the network availability factor. Scheduled downtime must occur during off-hours. (M)

4.7.8.3.1.2 Level 2 - Requirement: Connectivity from all other MNT ANAPs in the core backbone network infrastructure to the geographically dispersed state-owned points of high user demand must have a minimum monthly network availability factor of 99.86% (60 min) per ANAP per calendar month (This network availability percentage will be greater if so specified by the Offeror.) The MNT Service Provider will be entitled to no greater than 4 hours of scheduled downtime for each Level 2 ANAP per quarter or 3-month period. Scheduled downtime must be coordinated with the MNT staff with at least 14-days advance notice prior to performing the downtime in order for it not to be calculated into the network availability factor. Scheduled downtime must occur during off-hours. (M)

4.7.8.3.1.3 Level 3 – Requirement: Connectivity from the MNT ANAPs in the core backbone network infrastructure or State-owned ANAP locations to MNT End sites shall have a minimum monthly network availability factor of 99.72% per site, per month (2 hours)(This network availability percentage will be greater if so specified by the Offeror) The MNT Service Provider shall be entitled to no greater than 4 hours of scheduled downtime for each Level 3 End Site per quarter or 3-month period. Scheduled downtime must be coordinated with the MNT staff with at least 14-days advance notice prior to performing the downtime in order for it not to be calculated into the network availability factor. Scheduled downtime must be scheduled during off-hours.

4.7.8.3.1.4 Requirement: The above specified network availability factors must be calculated at the end of each calendar month according to State parameters (the percentages of availability shown above) and methods that the Offeror must propose in response to the Performance management monthly report requirements of this RFP. The Offeror must provide a brief description of their proposed methodology here (M):

4.8 Project Management (100 Points)

Project Management refers to those tasks and responsibilities which are specific to the implementation of the MNT and separate from the ongoing management and monitoring requirements above. The Offeror must respond to the following preliminary responsibility requirements with proposed processes. The Offeror also should describe any standard processes it already has developed for other client projects of similar scope which may be applied to the requirements of this RFP.

4.8.1 The following responsibilities are Project Management requirements of the Offeror. The Offeror shall describe in their RFP response how these responsibilities will be met:

4.8.1.1 Requirement: Identify project milestones/deliverables and provide a preliminary schedule for when these targets will be met/delivered.

Response (limit 2 pages; refer to attachment):

4.8.1.2 Requirement: Propose and describe the anticipated use of a Project Management tracking/planning software application, including in their proposal some methodology for online or shared access with MNT management.

Response (limit 1 page; refer to attachment):

4.8.1.3. Requirement: Propose a meeting/communication routine which identifies weekly, monthly, and on-demand options for implementation-specific management communication.

Response (limit 2 pages; refer to attachment):

4.8.1.4 Requirement: Submit Phase I implementation plan as part of RFP Response, containing detailed information on ANAP/SANAP sites to be completed in first year of implementation.

Response (limit 20 pages; refer to attachment):

4.8.1.5 Requirement: Submit proposed network acceptance test plans for end site implementations, ANAPs, and SANAPs.

Response (limit 2 pages; refer to attachment):

4.8.1.6 Requirement: Propose a mediation process for implementation project changes or variances.

Response (limit 1 page; refer to attachment):

4.8.1.7 Requirement: Agree to submit Phase II Plan at month 6 of implementation, containing detailed information on ANAP/SANAP sites to be completed in second year of implementation.

Response:

4.8.1.8 Requirement: Agree to submit Phase III Plan at month 18 of implementation, containing detailed information on ANAP sites to be completed in third and final year of implementation.

Response:

4.9 Cost (400 Points)

Evaluation - The expected cost to the State during the entire basic period, including all options, will be evaluated. Offerors are expected to develop cost schedules based on the service requirements and phased implementation requirements detailed in this RFP. Offeror should use the volumes and sites specified in 5.4. Offeror's should assume that telecommunications traffic volumes will be split evenly between UBR and CBR services. The cost information supplied must reflect the full cost to the State of solutions proposed by the Offeror. The Offeror's response must differentiate between tariffed and non-tariffed services. Proposed services should be presented in catalog format with pricing schedules by service. The cost schedules must reflect the Offeror's implementation strategy for completing service requirements to the requisite minimum number of ANAP/SANAP sites in each year of the planned implementation, but is not limited to that minimum. The cost proposal should be presented in the following format:

4.9.1 Requirement: The catalog of services offered for network services.

4.9.2 Requirement: The catalog of services offered for management and monitoring services including optional costs for management and monitoring of agency end-site equipment.

4.9.3 Requirement: Year 1,2 and 3 network services costs, including installation and any start-up costs for all State sites connecting to completed ANAPs.

4.9.4 Requirement: Network Services Annual recurring costs - ongoing operating costs after the completion of the implementation (years 4-10).

4.9.5 Requirement: Year 1,2 and 3 management and monitoring costs, including consoles, software implementation, and startup costs for remote monitoring.

4.9.6 Requirement: Annual recurring costs - ongoing operating costs for network management and monitoring after the completion of the implementation (years 4-10).

4.9.7 Requirement: Summary costs - a summary of the total costs by year (4.9.3 through 4.9.6) of operating the MNT over the ten years of the contract (five year basic period, plus five one year extensions) including a total of all years.